

**SONY®**

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DIGITAL COLOR PRINTER

# **UPD-C21X**

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## **SERVICE MANUAL**

1st Edition

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## Manual Structure

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### Purpose of this manual

This manual describes the information on the maintenance of digital color printer UPD-C21X, and the service information on the difference between a similar model and UP-D2600.

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### Related manuals

The Operation Manual and Service Manual for products that constitute a digital printing system as well as this "Service Manual" are provided for this unit.

- **Service Manual (Not supplied for each product.)**

- UPX-C21

- Part No: 9-955-221-01

- This manual describes the whole configuration of a digital printing system.

- DKC-C21X Vol. 1

- Part No: 9-955-223-11

- This manual describes the information on the maintenance of this unit and the service information on the parts replacement, adjustment, and circuit operation description.

- DKC-C21X Vol. 2

- Part No: 9-955-223-21

- This manual describes the service information on the detailed parts list, block diagram, schematic diagram, and board layout of this unit.

- UPA-C21X

- Part No: 9-955-224-01

- This manual describes the information on the maintenance of this unit, and the service information on the parts replacement, adjustment, semiconductor pin assignment, board layout, block diagram, and schematic diagram.

- **Operating Instructions**

- UPX-C21 (Supplied for product.)

- Part No: 3-204-293-11

- This manual describes the information required for the actual management and operation of this unit.

## UP-D2600とUPD-C21Xの相違 Difference between UP-D2600 and UPD-C21X

### FRONT DOOR ASSEMBLY

UP-D2600			UPD-C21X		
Part No.	SP	Description	Part No.	SP	Description
A-8279-256-A	u	BROCK ASSY,FRONT (D2600)	A-8279-353-A	u	BROCK ASSY,FRONT (2600X)
X-3605-711-1	s	DOOR ASSY,FRONT (D2600)	X-3605-846-1	s	DOOR ASSY,FRONT (2600X)

詳細は、サービスマニュアルUP-D2600S/UP-D2600の「8-2. Exploded Views」を参照してください。  
For more details, refer to “8-2. Exploded View” in the UP-D2600S/UP-D2600 Service Manual.

### IF-788 BOARD

UP-D2600			UPD-C21X		
Part No.	SP	Description	Part No.	SP	Description
A-8324-417-A	o	MOUNTED CIRCUIT BOARD, IF-788	A-8325-864-A	o	MOUNTED CIRCUIT BOARD, IF-788 (C21) COM
8-759-676-32	o	IC M27C1001-D26SYV2.01	8-759-682-08	o	IC M27C1001-C21SYV1.10

詳細は、サービスマニュアルUP-D2600S/UP-D2600の「8-3. Electrical Parts List」を参照してください。  
For more details, refer to “8-3. Electrical Parts List” in the UP-D2600S/UP-D2600 Service Manual.

**SONY**

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SP01461

DIGITAL COLOR PRINTER

# **UP-D2600S**

# **UP-D2600**

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## **SERVICE MANUAL**

Volume 2 1st Edition

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## **⚠ 警告**

このマニュアルは、サービス専用です。

お客様が、このマニュアルに記載された設置や保守、点検、修理などを行うと感電や火災、人身事故につながる可能性があります。

危険をさけるため、サービストレーニングを受けた技術者のみご使用ください。

設置や保守、点検、修理などを行う前に、別冊のサービスマニュアルVolume 1の「安全のために」と別冊のサービスマニュアルに掲載してある取扱説明書の「安全のために」を必ずお読みください。

## **⚠ WARNING**

This manual is intended for qualified service personnel only.

To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

## **⚠ WARNUNG**

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.

Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegebenen Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

## **⚠ AVERTISSEMENT**

Ce manuel est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

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## このマニュアルについて

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### 本書の目的

本書は、デジタルカラープリンタUP-D2600S/D2600のサービスマニュアルVol.2です。  
本書は、システム/サービスエンジニアの方々にご使用いただくことを想定し、  
UP-D2600S/D2600の保守に関する情報、および部品レベルまでのサービスを前提とした情報を記載しています。

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### 関連マニュアル

UP-D2600S/D2600には、この「サービスマニュアル Vol.2」の他に、下記のマニュアルが用意されています。

- ・ サーマニュアル Vol.1

部品番号: 9-955-194-11 (J 向)

本機の取扱説明、サービスインフォメーション、電気調整、回路動作説明、メカ動作説明、トラブルシューティングを記載したマニュアルです。

- ・ “Semiconductor Pin Assignments” CD-ROM 版 (別途用意)

この “Semiconductor Pin Assignments” CD-ROM 版は、B&P カンパニーの機器に使用されている半導体を検索することができます。

この CD-ROM で検索できない半導体は、その半導体を使用されている機種 of サービスマニュアルに記載されています。サービスマニュアルには、その機種に使用されているすべての半導体一覧とその ID 番号を記載していますので、この CD-ROM 版と合わせて使用してください。

部品番号: 9-968-546-XX

## Manual Structure

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### Purpose of this manual

This manual is the service manual Vol.2 of the Digital Color Printer UP-D2600S/D2600.

This manual is intended for use by trained system and service engineers, and describes the information for maintenance and detailed service.

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### Related manuals

Besides this Service Manual Vol.2, the following manual is available for the UP-D2600S/D2600.

- **Service Manual Vol.1**

Part No. 9-955-195-11 (for UC, CE)

Contains the operating instructions, service information, electrical alignment, circuit description, mechanical description and troubleshooting.

- **"Semiconductor Pin Assignments" CD-ROM (Available on request)**

This "Semiconductor Pin Assignments" CD-ROM allows you to search for semiconductors used in B&P Company equipment.

Semiconductors that cannot be searched for on this CD-ROM are listed in the service manual for the corresponding unit. The service manual contains a complete list of all semiconductors and their ID Nos., and thus should be used together with the CD-ROM.

Part number: 9-968-546-XX

## Section 7

### Semiconductor Pin Assignments

The following describes the semiconductor types used in this unit.

For semiconductors marked with page numbers in the index, refer to the corresponding pages in this section.

However, in some cases incompatible types are also listed, therefore, when a part is to be replaced, also refer to the Spare Parts section.

In addition, for semiconductors with ID Nos., refer to the separate CD-ROM titled "Semiconductor Pin Assignments" (Sony Part No. 9-968-546-xx) that allows searching for parts by semiconductor type or ID No.

The semiconductors in the manual or on the CD-ROM are listed by equivalent types. Thus the external view or the index mark indication may differ from the actual type.

Pin assignments and block diagrams are based on the IC manufacturer's data book.

本機に使用されている半導体型名の一覧を下記に示します。索引中、ページが記載されている半導体は、本章の該当ページを参照してください。ただし、互換性のない型名を併記している場合がありますので、部品を交換するときは、Spare Partsの章を参照してください。

また、ID番号が記載されている半導体は、別途発行の "Semiconductor Pin Assignments" CD-ROM版 (ソニー部品番号: 9-968-546-xx) を参照してください。半導体型名またはID番号から検索ができます。

マニュアルまたはCD-ROMに掲載されている半導体は、それぞれの機能を等価的に表わしたものです。

外観やインデックスマークの表示方法が実物と異なる場合があります。

ピン配置およびブロック図はICメーカーのデータブックに従いました。

DIODE	Page or ID No.
10E-2 .....	DA001-01
10E-2FD .....	DA001-01
1S2837-T1 .....	DC001-03
1SS184 .....	DC001-03
1SS352 .....	DC008-02
1SS352-TPH3 .....	DC008-02

DIODE	Page or ID No.
GL1EG111 .....	LA005-01
GL480 .....	LR089-01
SLP-355B-51 .....	LR024-01
SLP-655B-51 .....	LR024-01

OTHER	Page or ID No.
GP1S54 .....	MR010-02
GP1S58V .....	MR010-02
GP2S40K .....	MA013-01
RPI-352 .....	MR010-07

TRANSISTOR	Page or ID No.
2SB798-DL .....	TC002-01
2SB798-T1DK .....	TC002-01
2SB962-Z-P .....	TR031-02
2SB962Z-T2P .....	TR031-02
2SC1623-L5L6 .....	TC001-02
2SC1623-T1-L5L6 .....	TC001-02
2SD992-Z .....	TR031-05
2SD992-Z-E2 .....	TR031-05
2SD999-CLCK .....	TC002-02
2SD999-T1-CLCK .....	TC002-02
DTC114EKA-T146 .....	TC001-03
DTC124EKA-T146 .....	TC001-03
PT480F .....	TR037-02

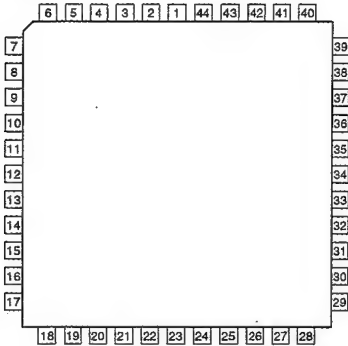
IC	Page or ID No.
AK6420AF-E2 .....	AK6420HF
CXD8636Q .....	CXD8862Q
CXD8653Q .....	CXD8653Q
CXD8677Q .....	CXD8677Q
CXD8865R .....	CXD8865R
CXD8869Q .....	CXD8869Q
EPM7032SLC44-10(05) .....	7-2
GM71C17800CJ-6TR .....	7-2
HD6413378F10 .....	HD6473378F
LM339NS .....	LM339
LM358PS .....	LM358N
LM358PSR .....	LM358N
M24C01-MN6T .....	M24C01-MN6T
M27C1001-12F1(F8) .....	M27C1001-15F1
M62354FP-T1 .....	M62354P
MB3863PF-G-BND .....	MB3863PF-G-BND
MB3863PF-G-BND-ER .....	MB3863PF-G-BND
MX23C4000MC-12-UP28M .....	MX23C4000MC-12-DME3K
MX23C4000MC-12-UP28S .....	MX23C4000MC-12-DME3K
RPI-5100 .....	RPI5100
S-80842ALUP-EA6-T2 .....	S-8054ALR-LN
SLA7024M .....	SLA7024M
SN74ACT1284NSR .....	SN74ACT1284NS-E05
SN74HC02ANS .....	TC74HC02P
SN74HC02ANSR .....	TC74HC02P
SN74HC08ANS .....	TC74HC08P
SN74HC08ANS-E05 .....	TC74HC08P
SN74HC138ANS .....	TC74HC138P
SN74HC138ANSR .....	TC74HC138P
SN74HC14ANS .....	TC74HC14P
SN74HC14ANSR .....	TC74HC14P
SN74HC161ANS .....	TC74HC161P
SN74HC161ANS-E05 .....	TC74HC161P
SN74HC245ANS .....	TC74HC245P
SN74HC245ANSR .....	TC74HC245P
SN74HC32ANS .....	TC74HC32P
SN74HC32ANSR .....	TC74HC32P
SN74HC541ANS .....	MC74HC541N
SN74HC541ANSR .....	MC74HC541N
SN74HC574ANS .....	TC74HC574P
SN74HC574ANS-E05 .....	TC74HC574P
SN74HC74ANSR .....	TC74HC74P
SN74HCU04ANS-E20 .....	TC74HC04P
SN74HCU04ANSR .....	TC74HC04P
TE6137 .....	TE6137
UPC324G2 .....	XRA10324AF
UPC324G2-E2 .....	XRA10324AF
UPC339G2-E2 .....	LM339
UPD71055GB-3B4 .....	UPD71055G

IC

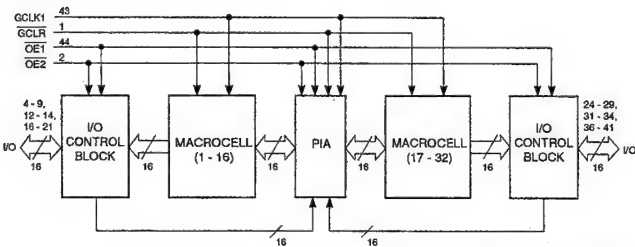
## EPM7032SLC44-10(05) (ALTERA)

PROGRAMMABLE LOGIC DEVICE

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	INPUT/GCLR	12	I/O	I/O	23	—	Vcc	34	I/O	I/O
2	I	INPUT/OE2	13	I/O	I/O (TMS)	24	I/O	I/O	35	—	Vcc
3	—	Vcc	14	I/O	I/O	25	I/O	I/O	36	I/O	I/O
4	I/O	I/O	15	—	Vcc	26	I/O	I/O	37	I/O	I/O
5	I/O	I/O	16	I/O	I/O	27	I/O	I/O	38	I/O	I/O (TDO)
6	I/O	I/O	17	I/O	I/O	28	I/O	I/O	39	I/O	I/O
7	I/O	I/O (TDI)	18	I/O	I/O	29	I/O	I/O	40	I/O	I/O
8	I/O	I/O	19	I/O	I/O	30	—	GND	41	I/O	I/O
9	I/O	I/O	20	I/O	I/O	31	I/O	I/O	42	—	GND
10	—	GND	21	I/O	I/O	32	I/O	I/O (TCK)	43	I	INPUT/GCLK1
11	—	Vcc	22	—	GND	33	I/O	I/O	44	I	INPUT/OE1

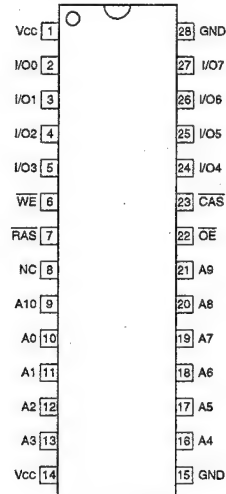


\*ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING

## GM71C17800CJ-6TR (LG SEMICON)

16M (2097152 x 8)-BIT DRAM

—TOP VIEW—



**INPUTS**  
 A0 - A10 : ADDRESS  
 CAS : COLUMN ADDRESS STROBE  
 OE : OUTPUT ENABLE  
 RAS : ROW ADDRESS STROBE  
 WE : READ/WRITE ENABLE

**INPUTS/OUTPUTS**  
 I/O0 - I/O7 : DATA

**OTHER**  
 NC : NO CONNECTION

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	Vcc	8	—	NC	15	—	GND	22	I	OE
2	I/O	I/O0	9	I	A10	16	I	A4	23	I	CAS
3	I/O	I/O1	10	I	A0	17	I	A5	24	I/O	I/O4
4	I/O	I/O2	11	I	A1	18	I	A6	25	I/O	I/O5
5	I/O	I/O3	12	I	A2	19	I	A7	26	I/O	I/O6
6	I	WE	13	I	A3	20	I	A8	27	I/O	I/O7
7	I	RAS	14	—	Vcc	21	I	A9	28	—	GND





## Section 8

### Spare Parts

#### 8-1. Notes on Repair Parts

##### 1. Safety Related Components Warning

###### **WARNING**

Components marked  $\triangle$  are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

##### 2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

Parts list has the present standardized repair parts.

##### 3. Stock of Parts

Parts marked with "o" at SP (Supply Code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

##### 4. Harness

Harnesses with no part number are not registered as spare parts.

In need of repair, get components shown in the list and repair using them.

#### 8-1. 補修部品注意事項

##### 1. 安全重要部品

###### **$\triangle$ 警告**

$\triangle$  印のついた部品は安全性を維持するために重要な部品です。したがって、交換する時は必ず指定の部品を使ってください。

##### 2. 部品の共通化

ソニーから供給する補修用部品は、セットに使われているものと異なることがあります。

これは部品の共通化、改良等によるものです。

部品表には現時点での共通化された補修用部品が記載されています。

##### 3. 部品の在庫

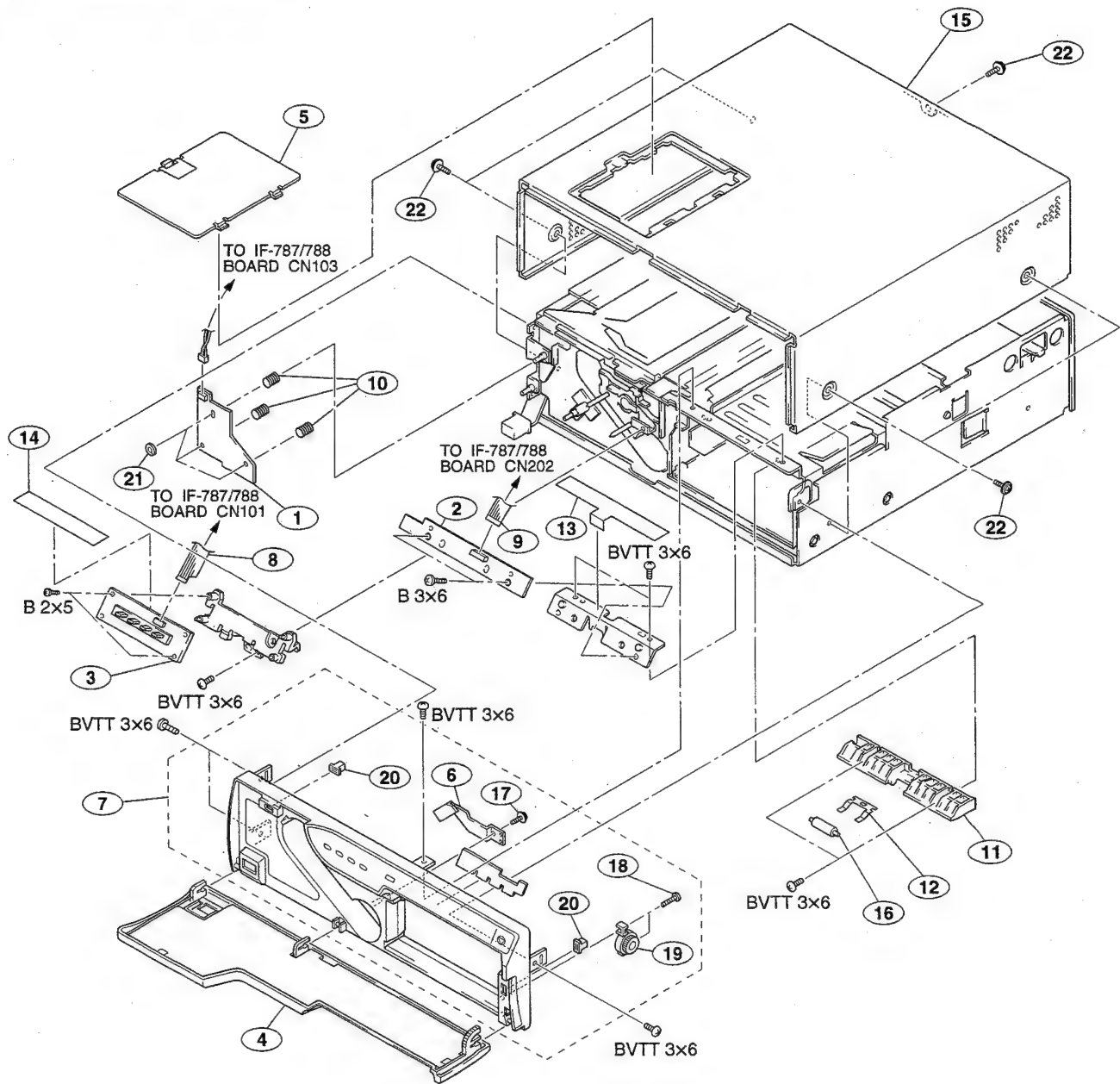
部品表のSP (Supply code) 欄に "o" で示される部品は在庫していないことがあり、納期が長くなることがあります。

##### 4. ハーネス

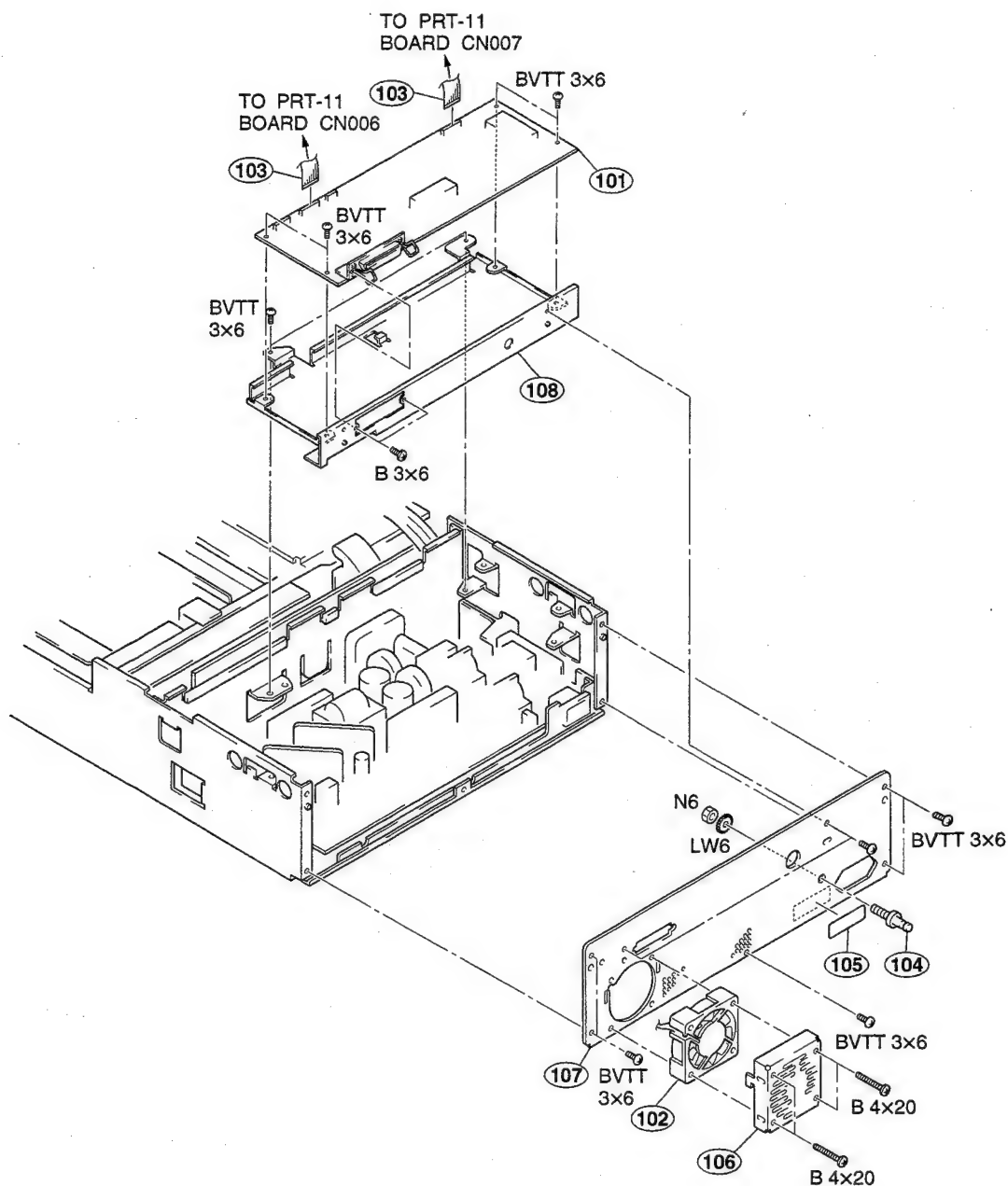
部品番号が記載されていないハーネスは、サービス部品として登録されていません。

これらは、リストに展開されているコンポーネント部品で補修してください。

8-2. Exploded Views



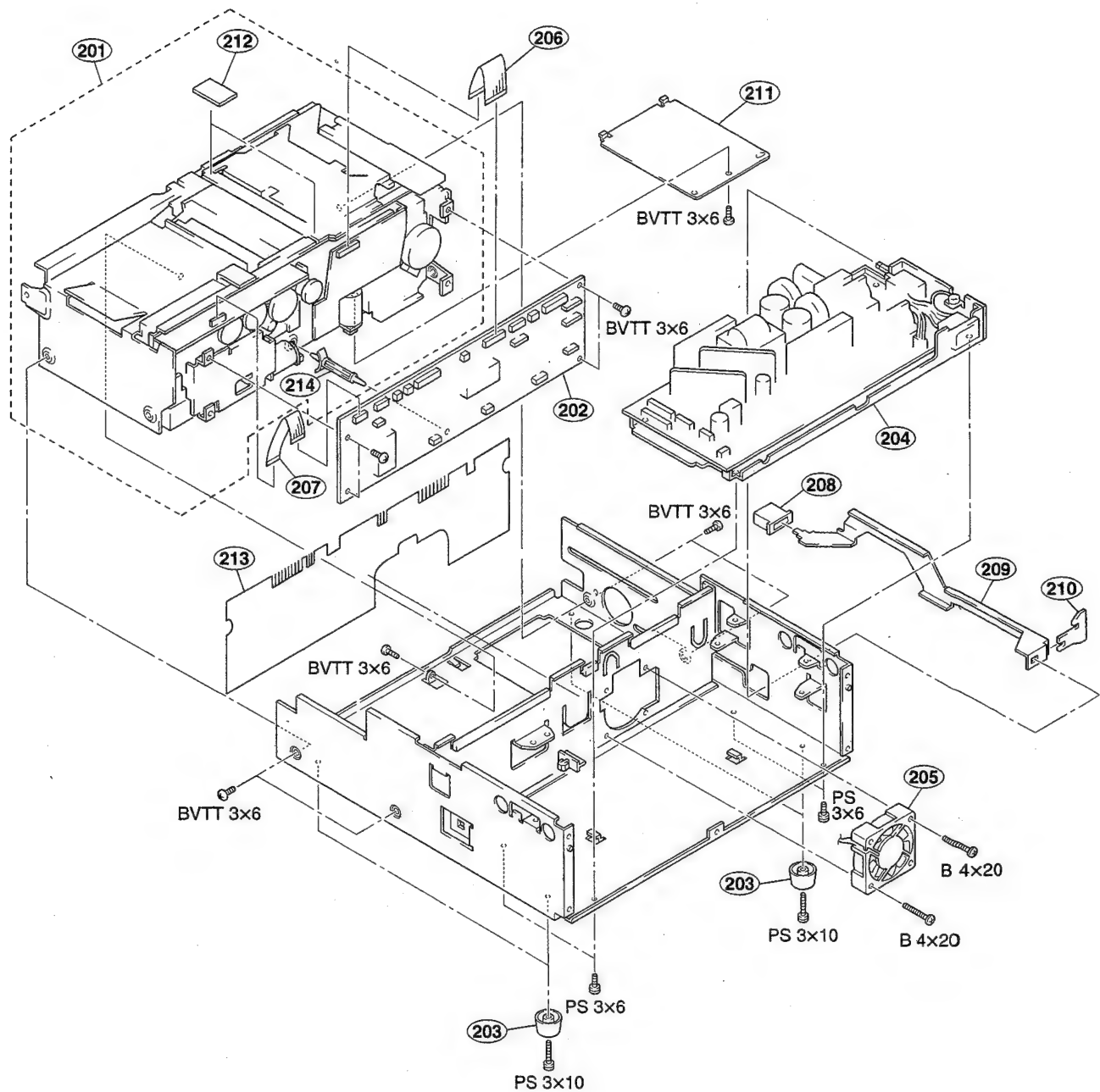
No.	Part No.	SP Description	No.	Part No.	SP Description
1	A-8316-356-A	o MOUNTED CIRCUIT BOARD, KY-422	13	3-611-669-01	o SHEET, KY
2	A-8316-464-A	o MOUNTED CIRCUIT BOARD, KY-401	14	3-611-670-01	o SHEET, ELECTROSTATIC
3	A-8323-811-A	o MOUNTED C BOARD, LE-190 (D26S)	15	3-615-400-01	o COVER, TOP
		[for UP-D2600S]	16	3-626-672-01	s ROLLER, SUPPORT PAPER EJECT
	A-8324-419-A	o MOUNTED C BOARD, LE-190 (D26)	17	3-669-480-21	s SCREW, + PTPWH 2X6
		[for UP-D2600]	18	3-713-790-31	s SCREW TAPPING + P M2X8
4	X-3605-711-1	s DOOR ASSY, FRONT (D2600)	19	3-721-204-11	s DAMPER
5	X-3679-335-5	o LID ASSY, TOP COVER	20	3-736-779-21	s MAGNET
6	X-3679-336-2	s SPRING ASSY, RIBBON EJECT	21	4-862-338-00	s WASHER, STOPPER
7	X-3679-409-2	s PANEL ASSY, FRONT (D2550)	22	4-886-821-11	s SCREW, M3X6 CASE
8	1-782-729-11	s WIRE, FLAT TYPE (7-CORE)			
9	1-782-730-11	s WIRE, FLAT TYPE (14-CORE)			
10	3-609-320-01	s SPRING, COMPRESSION			
11	3-609-527-02	s GUIDE, PAPER FRONT			
12	3-609-529-01	s SPRING, ROLLER PAPER EJECT			



No.	Part No.	SP Description
101	A-8323-806-A	o MOUNTED CIRCUIT BOARD, IF-787 [for UP-D2600S]
	A-8324-417-A	o MOUNTED CIRCUIT BOARD, IF-788 [for UP-D2600]
102	1-763-158-11	s D.C.FAN
103	1-782-734-11	s WIRE, FLAT TYPE (14-CORE)
104	3-175-740-01	s TERMINAL[for UC, CE]
105	3-179-847-01	o LABEL(NORTHERN EUROPE), CAUTION [for UC, CE]

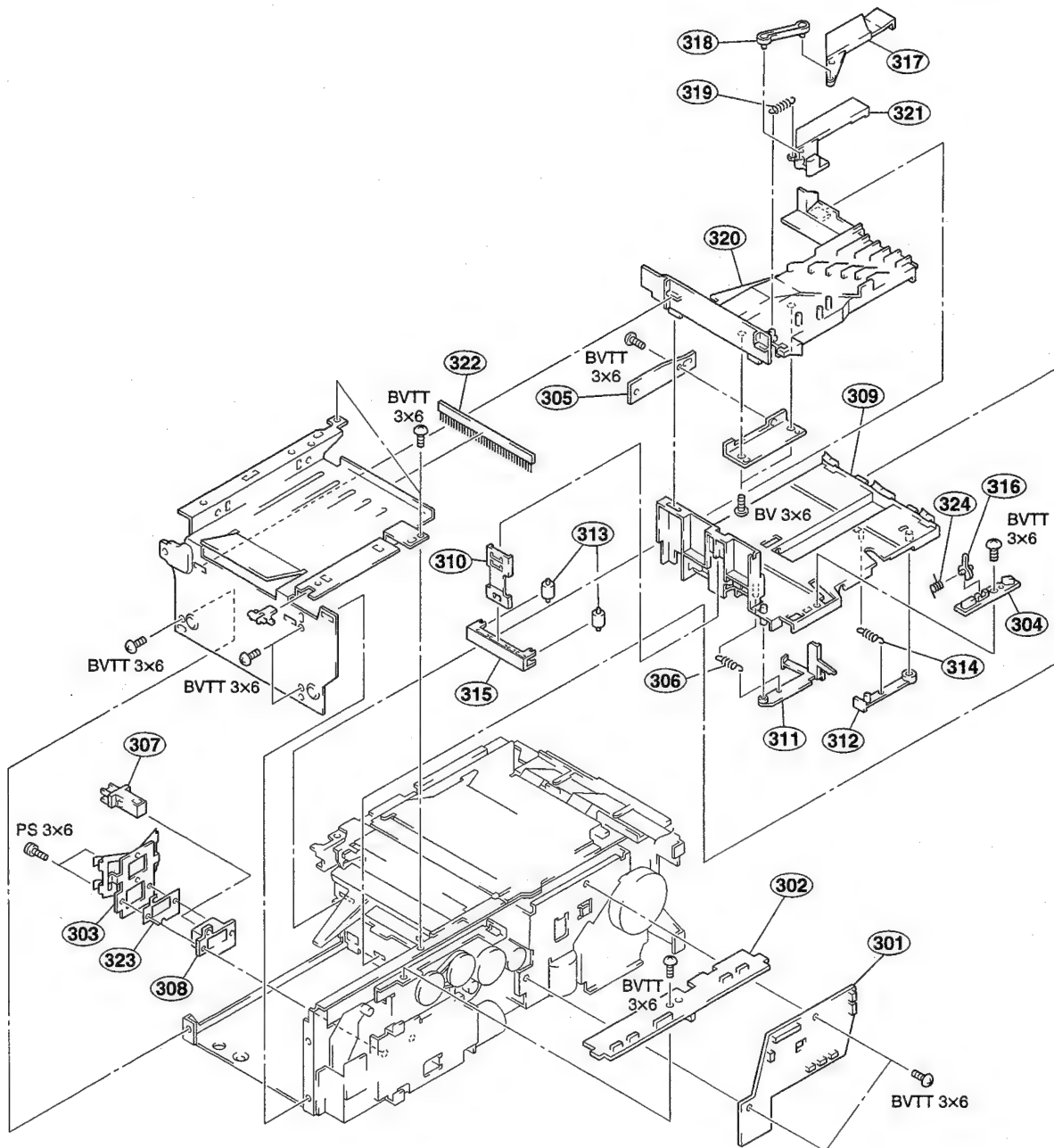
No.	Part No.	SP Description
106	3-608-999-02	o COVER, FAN
107	3-609-584-02	o PANEL, REAR [for UP-D2600(J)]
	3-609-590-02	o PANEL, REAR [for UP-D2600(UC, CE)]
	3-622-427-01	o PANEL, REAR [for UP-D2600S(UC, CE)]
	3-622-429-01	o PANEL, REAR [for UP-D2600S(J)]
108	3-609-596-02	o HOLDER, IF [for UP-D2600]
	3-622-428-02	o HOLDER, IF [for UP-D2600S]

Switching Regulator



No.	Part No.	SP Description
201	A-8315-906-B	o MECHANICAL ASSY
202	A-8323-805-A	o MOUNTED CIRCUIT BOARD, PRT-11 (D26)
203	X-3566-109-0	s FOOT ASSY, MF
204	Δ 1-468-250-14	s REGULATOR, SWITCHING
205	1-763-158-11	s D.C. FAN
206	1-782-735-11	s WIRE, FLAT TYPE (22-CORE)
207	1-782-736-11	s WIRE, FLAT TYPE (12-CORE)
208	2-431-568-31	s BUTTON, POWER
209	3-608-957-02	o ROD, POWER SWITCH
210	3-608-958-01	s STOPPER, ROD

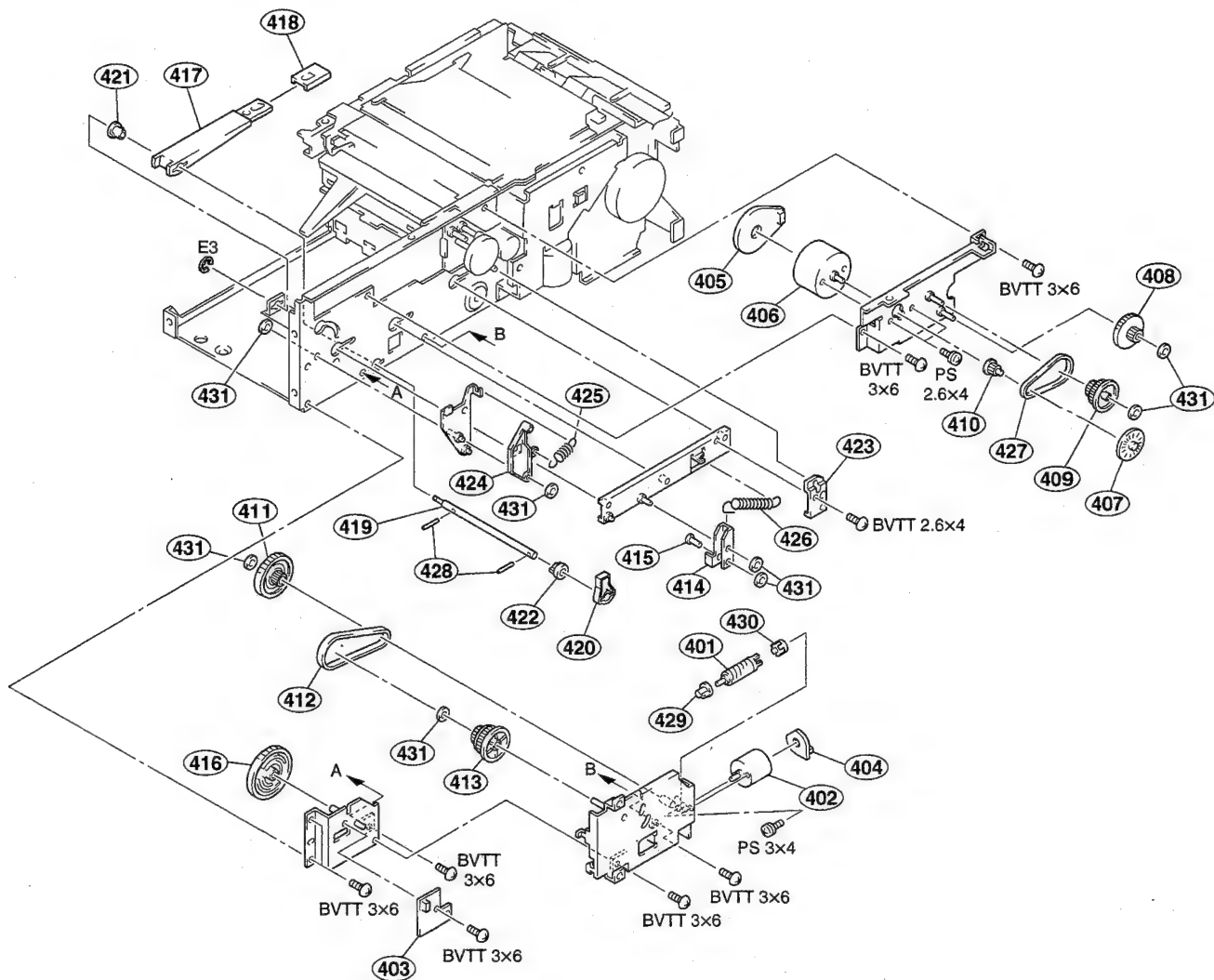
No.	Part No.	SP Description
211	3-609-303-01	o LID, MECHA CHASSIS
212	3-609-678-01	o SPACER
213	3-615-403-02	o SHEET, DUST PROTECTION
214	3-703-353-12	o SUPPORTER, PC BOARD



No.	Part No.	SP Description
301	A-8315-872-A	o MOUNTED CIRCUIT BOARD, SE-417
302	A-8315-874-A	o MOUNTED CIRCUIT BOARD, SE-418
303	X-3679-339-1	o SPRING ASSY, PAPER PUSH
304	1-666-986-11	o PRINTED CIRCUIT BOARD, SE-426
305	1-666-998-11	o PRINTED CIRCUIT BOARD, SE-430
306	3-183-184-01	s SPRING, EXTENSION
307	3-193-308-01	s CATCHER, PUSH
308	3-608-981-02	s HOLDER, PUSH-CATCHER
309	3-608-983-03	s RETAINER, PAPER SUPPLY TRAY
310	3-608-988-01	s SPRING, TRAY PUSH
311	3-608-989-02	s ARM, PAPER SENSOR
312	3-608-996-01	s ARM
313	3-608-997-01	s ROLLER
314	3-608-998-01	s SPRING, EXTENSION(TRAY OUT)
315	3-609-309-01	s HOLDER

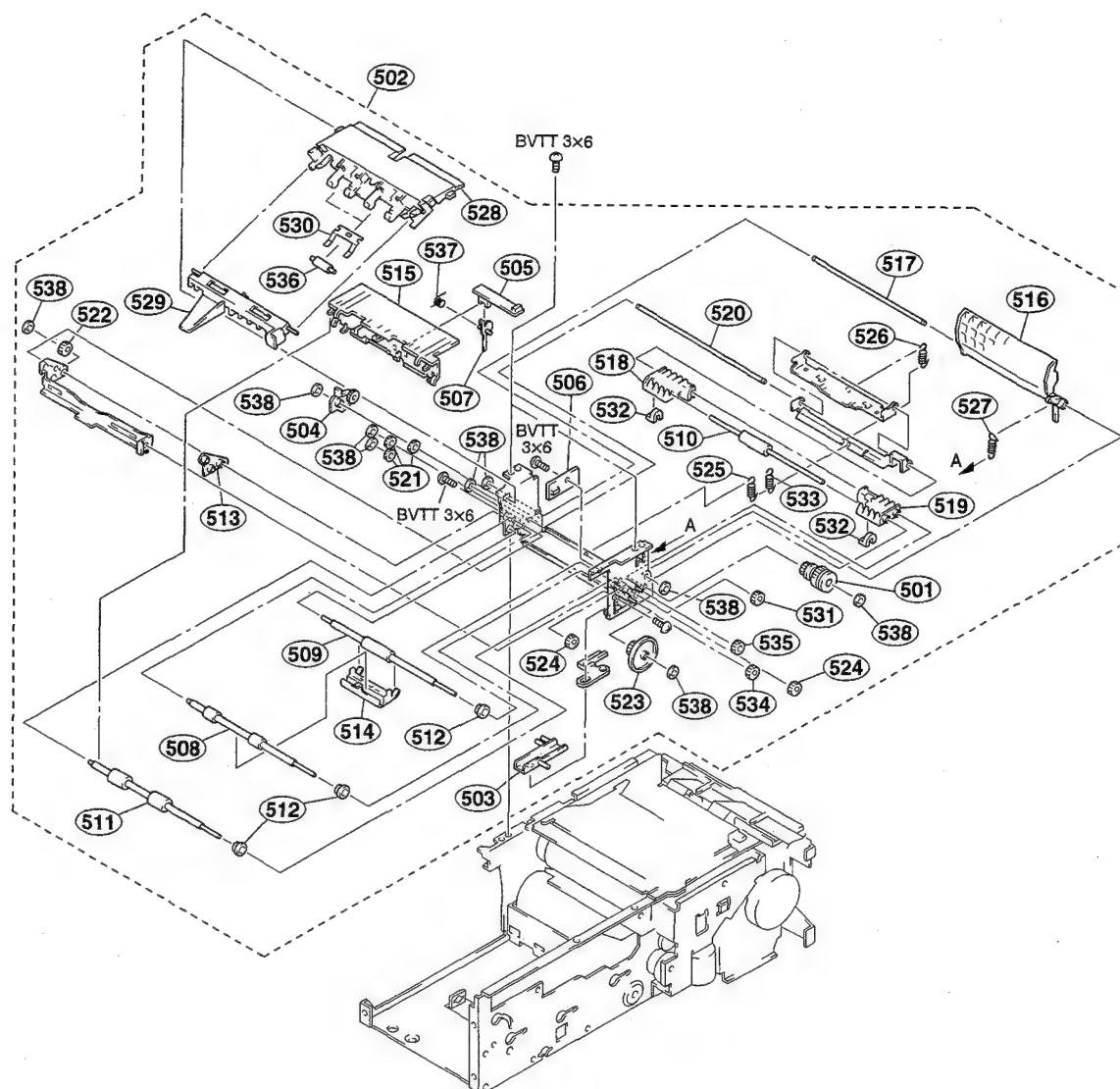
No.	Part No.	SP Description
316	3-609-353-01	s ARM, PE SENSOR
317	3-609-509-02	s LEVER, SUPPORT PAPER EJECT
318	3-609-510-01	s LEVER, JOINT PAPER EJECT
319	3-609-520-01	s SPRING, EXTENSION(PE A)
320	3-609-525-05	s BASE, PAPER EJECT
321	3-609-526-02	s LEVER, PAPER EJECT
322	3-609-530-03	o ELIMINATOR, STATIC ELECTRICITY
323	3-611-770-01	s SPASER, TRAY
324	3-683-691-01	s SPRING, HELICAL TORSION(SENSOR)

Mechanism Block (2)



No.	Part No.	SP Description	No.	Part No.	SP Description
401	X-3679-355-1	s GEAR ASSY, WORM	416	3-609-422-02	s CAM, TRAY MOTOR
402	1-541-309-11	s MOTOR, L(RF-370C)	417	3-609-423-01	o ARM, PAPER SUPPLY
403	1-666-997-11	o PRINTED CIRCUIT BOARD, SE-429	418	3-609-424-01	s CAP, ARM
404	1-667-001-11	o PRINTED CIRCUIT BOARD, SU-38	419	3-609-425-01	o SHAFT, PAPER SUPPLY ARM
405	1-667-002-11	o PRINTED CIRCUIT BOARD, SU-39	420	3-609-426-01	o LEVER, PAPER SUPPLY
*406	1-698-323-11	s MOTOR, DC	421	3-609-427-01	s BEARING, AS 4
407	3-173-567-02	s FIN, FG	422	3-609-428-01	s BEARING, AS 5
408	3-609-398-01	s GEAR, PU B	423	3-609-429-01	o PLATE, LINK JOINT
409	3-609-399-01	s GEAR PULLEY, PU	424	3-609-514-01	s LINK B, PAPER EJECT
*410	3-609-400-02	s PULLEY, PAPER SUPPLY MOTOR	425	3-609-521-01	s SPRING, EXTENSION(PE B)
411	3-609-408-02	s WORM WHEEL, TM	426	3-613-643-01	s SPRING, EXTENSION
412	3-609-409-01	s BELT, 110TN15	427	3-686-322-01	s BELT, (72TN15)
413	3-609-410-01	s GEAR PULLEY, TM	428	3-703-357-09	s PIN (DIA. 1.6 SERISE)
414	3-609-417-02	o LINK, PAPER SUPPLY LEVER	429	3-737-880-01	s CAP, SHAFT, WORM
415	3-609-418-02	o PIN, PS LEVER LINK	430	3-737-886-01	s TABEL, WORM
			431	4-926-219-02	s RING (DIA.2. 3), RETAINING

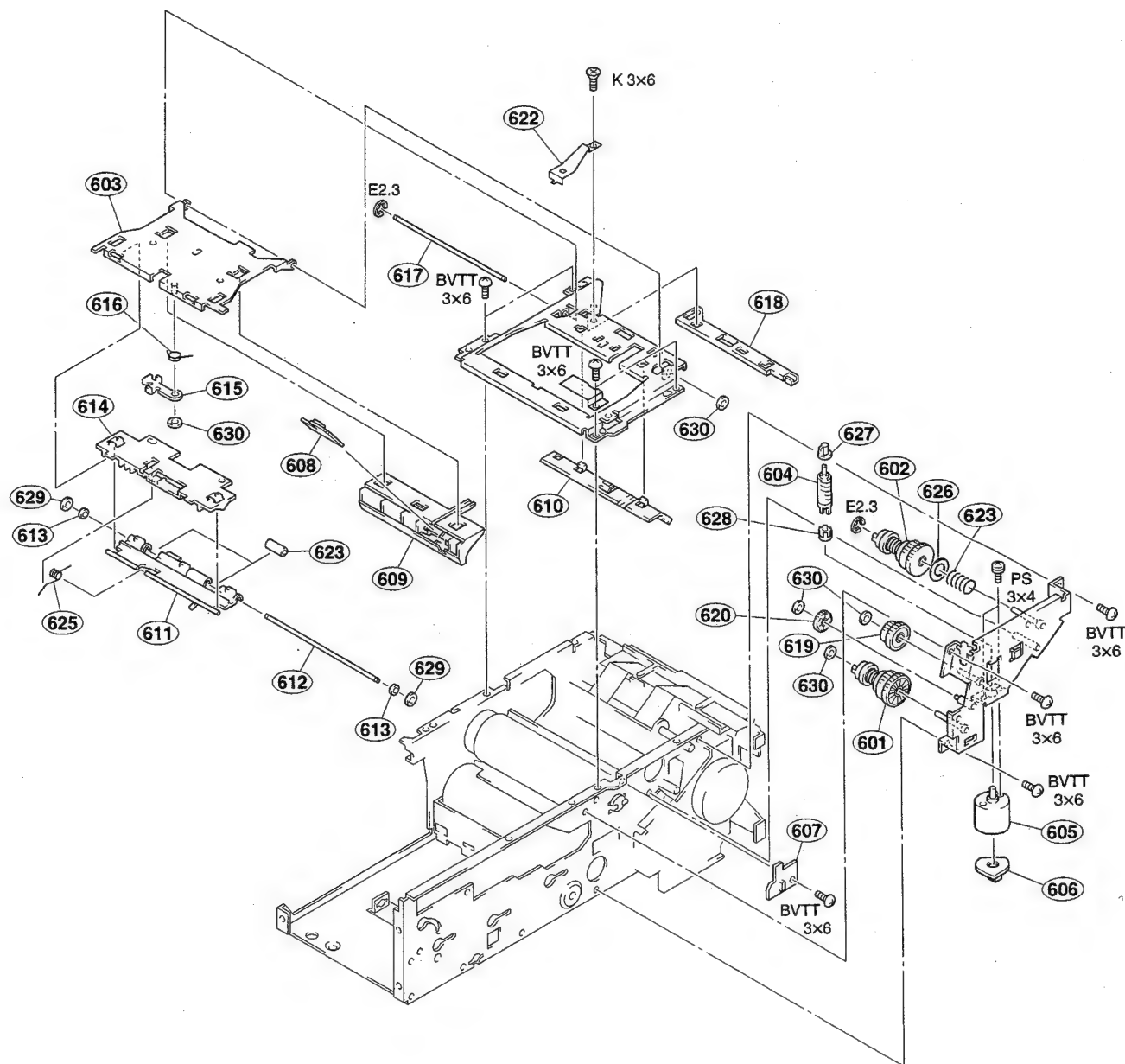
\*NOTE : When replacing the motor of No.406, it is necessary to replace the pulley of No.410.



No.	Part No.	SP Description	No.	Part No.	SP Description
501	A-8278-640-A	s GEAR ASSY, P LIMITER	521	3-609-384-01	s GEAR, BC B
502	A-8315-915-A	o PREPARE BLOCK ASSY, PAPER	522	3-609-385-01	s GEAR, BC C
503	X-3679-353-1	o LINK ASSY, PS BLOCK	523	3-609-387-01	s GEAR, PU A
504	X-3679-356-1	s ARM ASSY, BC	524	3-609-389-01	s GEAR, PAPER SUPPLY
505	1-666-987-11	o PRINTED CIRCUIT BOARD, SE-427	525	3-609-391-01	s SPRING, EXTENSION
506	1-666-988-11	o PRINTED CIRCUIT BOARD, SE-428	526	3-609-392-01	s SPRING, EXTENSION
507	3-609-353-01	s ARM, PE SENSOR	527	3-609-394-01	s SPRING, EXTENSION
508	3-609-369-01	s ROLLER, PICK UP	528	3-609-500-03	s GUIDE, PAPER EJECT
509	3-609-370-01	s ROLLER, PAPER SUPPLY	529	3-609-523-02	s FLAP, PAPER EJECT
510	3-609-371-01	s ROLLER, PAPER SEPARATION	530	3-609-529-01	s SPRING, ROLLER PAPER EJECT
511	3-609-372-01	s ROLLER, PAPER EJECT	531	3-609-700-01	s GEAR, PAPER SUPPLY
512	3-609-373-02	o BEARING, ROLLER M	532	3-611-296-01	o GUIDE, PAPER
513	3-609-374-01	s BEARING, ROLLER B	533	3-611-591-01	s SPRING, EXTENSION
514	3-609-375-01	s FLAP, PAPER RESTRAIN	534	3-615-197-01	s GEAR, PICK UP
515	3-609-376-01	s GUIDE, P SUPPLY&EJECT ROLLER	535	3-615-198-01	s GEAR, P SUPPLY IDLER
516	3-609-377-01	s FLAP, PAPER LEAD	536	3-626-672-01	s ROLLER, SUPPORT PAPER EJECT
517	3-609-378-02	o SHAFT, PL FLAP	537	3-683-691-01	s SPRING, HELICAL TORSION(SENSOR)
518	3-609-380-01	s BEARING, SEPARATION ROLLER F	538	4-926-219-02	s RING (DIA.2,3), RETAINING
519	3-609-381-01	s BEARING, SEPARATION ROLLER B			
520	3-609-382-02	o SHAFT, SEPARATION ROLLER PIVOT			

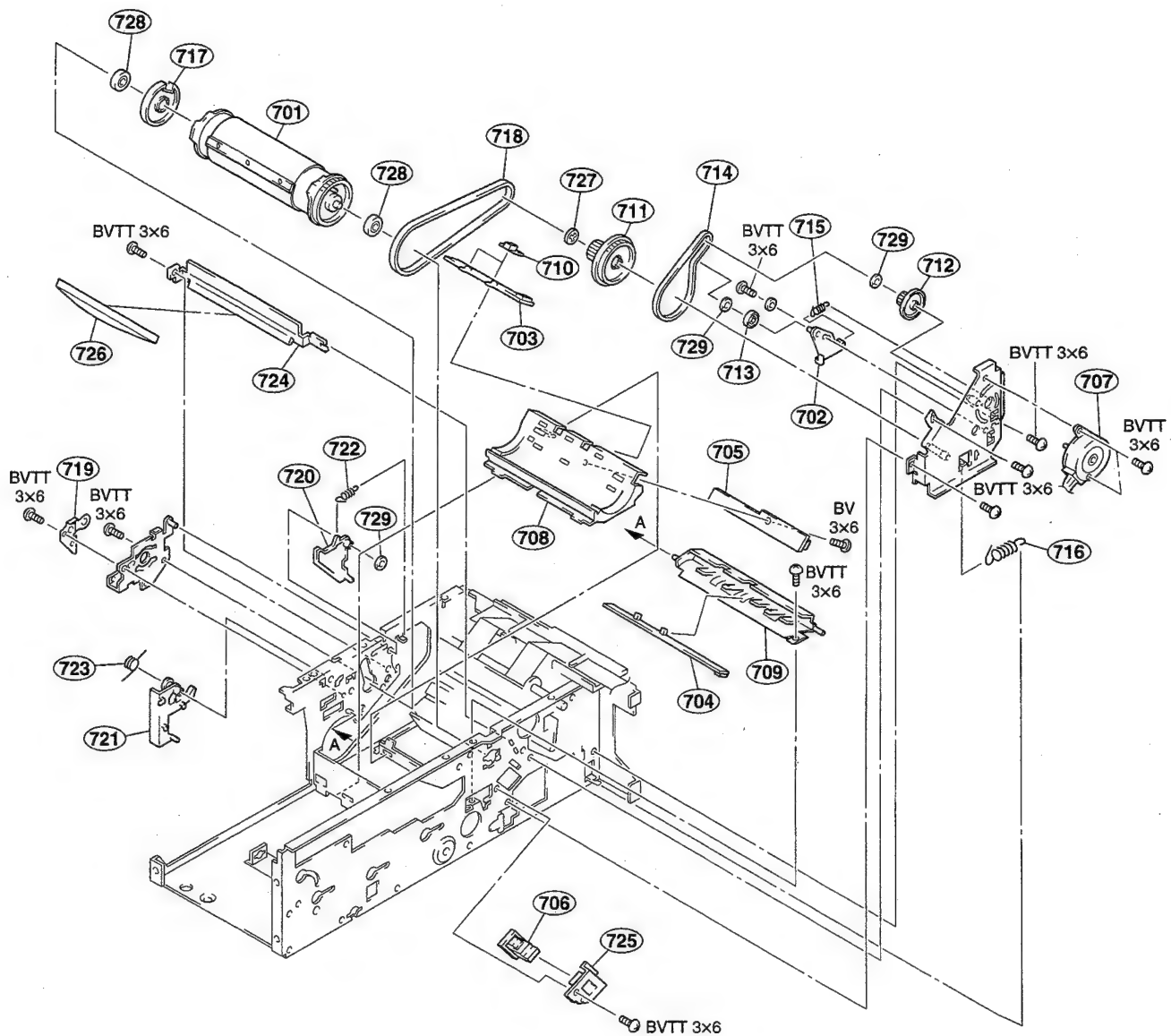


Mechanism Block (4)



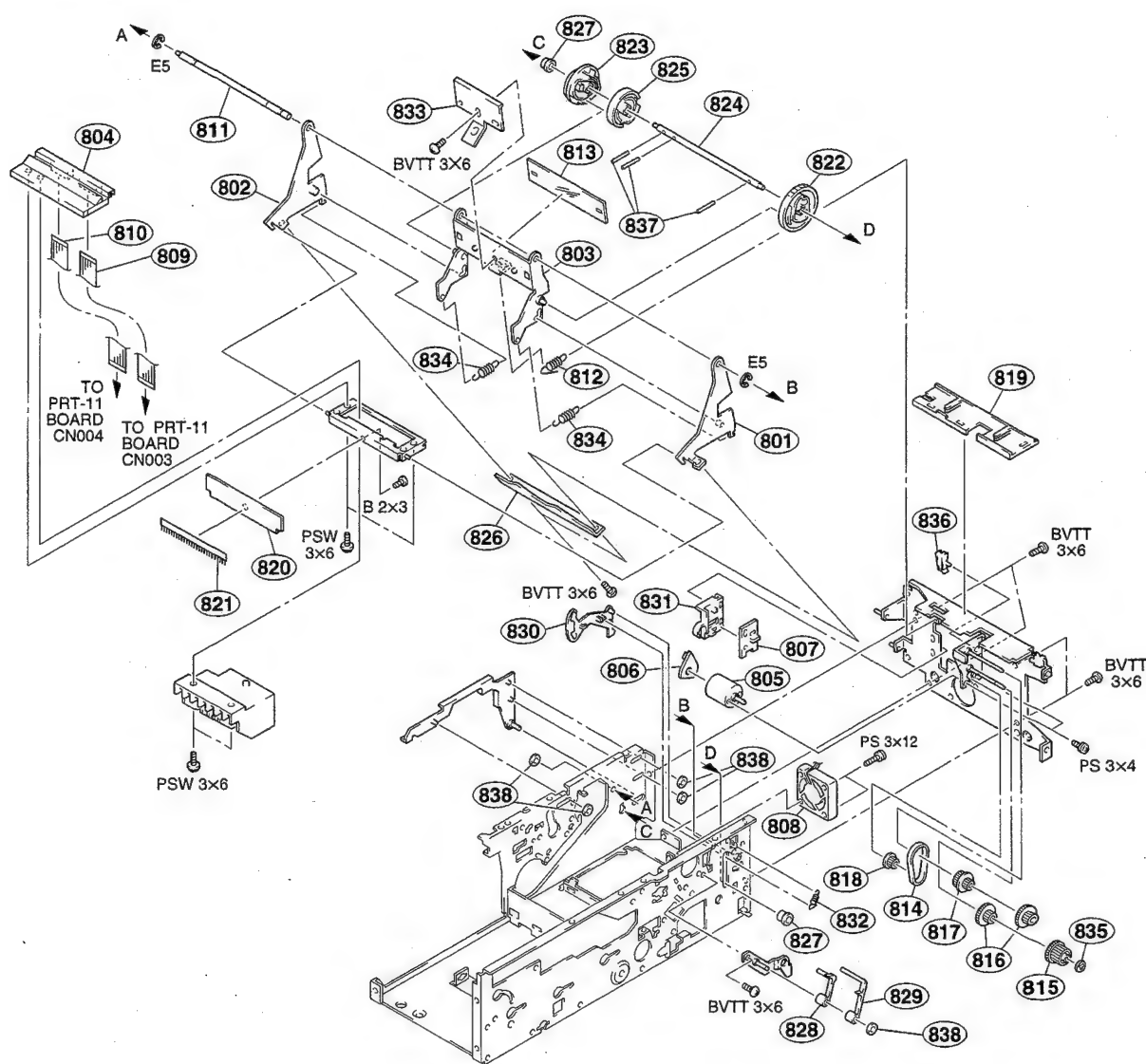
No.	Part No.	SP Description
601	A-8278-645-D	s LIMITER ASSY, RIBBON T
602	A-8278-646-C	s LIMITER ASSY, RIBBON S
603	X-3679-368-2	o COVER ASSY, PLATEN
604	X-3737-811-1	s WORM BLOCK ASSY
605	1-541-309-11	s MOTOR, L (RF-370C)
606	1-667-000-11	o PRINTED CIRCUIT BOARD, SU-37
607	1-667-005-13	o PRINTED CIRCUIT BOARD, SE-419
608	1-667-007-11	o PRINTED CIRCUIT BOARD, SE-422
609	3-608-985-01	s GUIDE, RIBBON TP
610	3-608-986-01	s GUIDE, RIBBON T1
611	3-609-452-02	s ARM, HOLD PAPER
612	3-609-453-01	o SHAFT, HOLD PAPER
613	3-609-455-01	s ROLLER, GUIDE HOLD PAPER
614	3-609-457-03	s STAY, PH ARM
615	3-609-458-01	s LOCK, PLATEN COVER

No.	Part No.	SP Description
616	3-609-459-01	s SPRING, TORSION(PC LOCK)
617	3-609-493-02	o SHAFT, PLATEN COVER
618	3-609-494-01	s GUIDE, HEAD HARNESS
619	3-609-498-01	s WHEEL, RIBBON WORM
620	3-609-499-01	s GEAR, IDLER RIBBON
621	3-611-597-01	o PLATE, ELECTROSTATIC(LID)
622	3-611-600-01	s ROCK, PLATEN COVER[for UC]
623	3-614-412-01	s SPRING, COMPRESSION (RIBBON B)
624	3-626-673-01	s ROLLER, HOLD PAPER
625	3-626-676-01	s SPRING, TORSION(PAPER HOLD)
626	3-626-674-01	o CAP, SPRING
627	3-737-880-01	s CAP, WORM SHAFT
628	3-737-886-01	s TABEL, WORM
629	4-926-218-01	s RING (DIA.2), RETAINING
630	4-926-219-02	s RING (DIA.2.3), RETAINING



No.	Part No.	SP Description	No.	Part No.	SP Description
701	A-8315-909-A	s PLATEN BLOCK ASSY	716	3-609-352-01	s SPRING, EXTENSION
702	X-3679-359-1	o BRACKET ASSY, IDLER PLATEN	717	3-609-477-01	o CAM, TIMING CHUCK
703	1-666-983-12	o PRINTED CIRCUIT BOARD, SE-423	718	3-609-479-01	s BELT, 160TN15
704	1-666-984-12	o PRINTED CIRCUIT BOARD, SE-424	719	3-609-482-01	o SPRING, EARTH PLATEN
705	1-666-985-11	o PRINTED CIRCUIT BOARD, SE-425	720	3-609-486-01	s LINK B, CHUCK
706	1-692-960-11	s SWITCH, PUSH (1 KEY)	721	3-609-487-01	s STOPPER, GEAR BARCORD
707	1-698-555-21	s MOTOR, STEPPING(PM42S-048-SNA6)	722	3-609-491-01	s SPRING, EXTENSION
708	3-608-982-01	o GUIDE, RIBBON U	723	3-609-492-01	s SPRING, TORSION(BC STOPPER)
709	3-608-984-03	s GUIDE, RIBBON M	724	3-609-495-01	o GUIDE, PLATEN
710	3-608-995-01	o COVER, SENSOR	725	3-614-377-01	s HOLDER, RIBBON PUSH-CATCHER
711	3-609-347-01	s PULLEY, PLATEN	726	3-626-675-01	o SHEET, PLATEN GUIDE
712	3-609-348-01	s PULLEY, PLATEN GEAR	727	3-650-537-00	o WASHER
713	3-609-349-01	s IDLER, PLATEN	728	3-683-140-01	o FLANGELESS BALL BEARING
714	3-609-350-01	s BELT, 120TN15	729	4-926-219-02	s RING (DIA.2.3), RETAINING
715	3-609-351-01	s SPRING, EXTENSION			

Mechanism Block (6)



No.	Part No.	SP Description	No.	Part No.	SP Description
801	X-3679-360-2	s PLATE B ASSY, PRESS HEAD	821	3-609-472-03	o ELIMINATOR, STATIC ELETRICITY
802	X-3679-361-2	s PLATE F ASSY, PRESS HEAD	822	3-609-473-02	s CAM B, HEAD
803	X-3679-362-2	s LINK ASSY, HEAD	823	3-609-474-02	s CAM F, HEAD
804	1-500-535-11	s HEAD, THERMAL (F3298)	824	3-609-475-02	o SHAFT, HEAD CAM
*805	1-541-309-11	s MOTOR, L(RF-370C)	825	3-609-476-02	s PLATE, SENSOR HEAD
806	1-666-999-11	o PRINTED CIRCUIT BOARD, SU-36	826	3-609-480-01	o PRESSER, HEAD
807	1-667-006-11	o PRINTED CIRCUIT BOARD, SE-420	827	3-609-481-01	s BEARING, CAM HEAD
808	1-763-347-11	s FAN, D.C.	828	3-609-483-02	s HOOK A, LIMITER
809	1-782-738-11	s WIRE, FLAT TYPE (21 CORE)	829	3-609-484-01	s HOOK B, LIMITER
810	1-782-739-11	s WIRE, FLAT TYPE (19 CORE)	830	3-609-485-01	s LINK, LIMITER
811	3-609-437-02	o SHAFT, LINK HEAD	831	3-609-488-01	s HOLDER, SENSOR HEAD
812	3-609-438-01	s SPRING, EXTENSION	832	3-609-496-01	s SPRING, EXTENSION
813	3-609-440-02	s SHEET, LINK, HEAD	833	3-611-214-01	s SPRING, HEAD
814	3-609-444-01	s BELT, 79TN15	834	3-611-226-01	s SPRING, EXTENSION
815	3-609-445-01	s GEAR A, HEAD	835	3-650-537-00	o WASHER
816	3-609-446-01	s GEAR B, HEAD	836	3-686-073-01	o CLAMP, HARNESS
817	3-609-447-01	s PULLEY, GEAR, HEAD	837	3-703-357-09	s PIN (DIA. 1.6 SERISE)
*818	3-609-448-01	s PULLEY, HEAD MOTOR	838	4-926-219-02	s RING (DIA.2.3), RETAINING
819	3-609-449-02	s CLAMP, HARNESS			
820	3-609-471-01	o GUIDE, RIBBON			

\*NOTE :When replacing the motor of No.805, it is necessary to replace the pulley of No.818.

### 8-3. Electrical Parts List

IF-787/788 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8323-806-A	o MOUNTED CIRCUIT BOARD, IF-787 [for UP-D2600S]
1pc	A-8324-417-A	o MOUNTED CIRCUIT BOARD, IF-788 [for UP-D2600]
1pc	8-759-650-71	o IC M27C1001-D26SYV1.00 [for UP-D2600S]
1pc	8-759-659-64	o IC M27C1001-D26SYV2.00 [for UP-D2600]
BZ101	1-529-080-11	s BUZZER, PIEZOELECTRIC
C101	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C102	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C103	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C104	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C105	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C106	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C107	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C108	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C109	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C112	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C113	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C114	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C116	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C117	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C118	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C119	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C120	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C121	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C122	1-163-009-11	s CAPACITOR, CERAMIC 1000PF/50V
C123	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C124	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C125	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C126	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C127	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C128	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C129	1-163-009-11	s CAPACITOR, CERAMIC 1000PF/50V [for UP-D2600S]
C201	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C202	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP [for UP-D2600] [for UP-D2600S]
C203	1-126-601-11	s CAPACITOR, ELECT 2.2MF/50V [for UP-D2600S]
C204	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C205	1-163-235-11	s CAPACITOR, CHIP CERAMIC 22PF/50V
C206	1-163-235-11	s CAPACITOR, CHIP CERAMIC 22PF/50V
C207	1-163-009-11	s CAPACITOR, CERAMIC 1000PF/50V
C208	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C209	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C210	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C211	1-163-009-11	s CAPACITOR, CERAMIC 1000PF/50V [for UP-D2600] [for UP-D2600S]
C212	1-163-009-11	s CAPACITOR, CERAMIC 1000PF/50V [for UP-D2600] [for UP-D2600S]
C213	1-163-009-11	s CAPACITOR, CERAMIC 1000PF/50V [for UP-D2600]
C214	1-115-339-11	s CAPACITOR, CERAMIC 0.1MF/50V

(IF-787/788 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
C215	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C216	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C217	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C218	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V [for UP-D2600]
C219	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V [for UP-D2600]
C220	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V [for UP-D2600]
C221	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C222	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C223	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C224	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C225	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C226	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C227	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP [for UP-D2600S] [for UP-D2600]
C228	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C229	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C230	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C231	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C232	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C233	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP
C234	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C235	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C236	1-126-204-11	s CAPACITOR, ELECT 47MF/16V(CHIP [for UP-D2600]
CN101	1-778-772-11	s CONNECTOR, FFC 7P
CN102	1-774-771-11	s CONNECTOR, FFC/FPC 14P
CN103	1-770-469-21	o PIN, CONNECTOR (PC BOARD) 2P
CN201	1-774-627-11	s CONNECTOR 36P [for UP-D2600]
CN202	1-774-771-11	s CONNECTOR, FFC/FPC 14P
CN203	1-779-993-11	s PIN, CONNECTOR (PWB) 5P
CN204	1-774-771-11	s CONNECTOR, FFC/FPC 14P
CN205	1-774-033-11	o HOUSING, CONNECTOR (PC BOARD) 50P [for UP-D2600S]
CN206	1-774-033-11	o HOUSING, CONNECTOR (PC BOARD) 50P [for UP-D2600S]
CNI210	1-526-660-21	o SOCKET, IC (DP) 32P
CNI212	1-526-659-00	o SOCKET (28P), IC
D201	8-719-801-78	s DIODE 1SS184
D202	8-719-048-98	s DIODE RB160L-40TE25 [for UP-D2600S]
F201	▲ 1-533-351-21	s FUSE CHIP 2A (6125) [for UP-D2600S]
FL201	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL202	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL203	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL204	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL205	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL206	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL207	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL208	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL209	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL210	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]
FL211	1-233-316-21	s FILTER, CHIP EMI [for UP-D2600]

(IF-787/788 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
FL212	1-233-316-21 s	FILTER,CHIP EMI [for UP-D2600]
FL213	1-233-316-21 s	FILTER,CHIP EMI [for UP-D2600]
FL214	1-233-316-21 s	FILTER,CHIP EMI [for UP-D2600]
FL215	1-233-316-21 s	FILTER,CHIP EMI [for UP-D2600]
FL216	1-233-316-21 s	FILTER,CHIP EMI [for UP-D2600]
FL217	1-233-316-21 s	FILTER,CHIP EMI [for UP-D2600]
FL218	1-233-316-21 s	FILTER,CHIP EMI [for UP-D2600]
IC101	8-759-194-80 s	IC CXD8869Q
IC102	8-759-461-91 s	IC CXD8677Q
IC105	8-759-525-23 s	IC MX23C4000MC-12-UP28S
IC106	8-759-525-22 s	IC MX23C4000MC-12-UP28M
IC107	8-759-640-75 s	IC GM71C17800CJ-6TR
IC108	8-759-640-75 s	IC GM71C17800CJ-6TR
IC109	8-759-926-82 s	IC SN74HC574ANS
IC110	8-759-650-70 o	IC EPM7032SLC44-10-D26V1.0
IC111	8-759-640-75 s	IC GM71C17800CJ-6TR
IC112	8-759-926-77 s	IC SN74HC541ANS
IC201	8-759-464-95 s	IC AK6420AF-E2
IC202	8-759-269-92 s	IC SN74HCU04ANS (E20)
IC203	8-759-543-21 s	IC S-80842ALUP-EA6-T2
IC204	8-759-254-94 s	IC HD6413378F10
IC205	8-759-388-42 s	IC BH9595FP-Y (E2) [for UP-D2600S]
	8-759-434-22 s	IC SN74ACT1284NSR [for UP-D2600]
IC206	8-759-925-74 s	IC SN74HC04ANS [for UP-D2600S]
	8-759-434-22 s	IC SN74ACT1284NSR [for UP-D2600]
IC207	8-759-926-77 s	IC SN74HC541ANS [for UP-D2600]
IC208	8-759-925-76 s	IC SN74HC08ANS
IC209	8-759-455-85 s	IC MB86604L [for UP-D2600S]
	8-759-461-92 s	IC TE6137 [for UP-D2600]
IC211	8-759-926-11 s	IC SN74HC138ANS
L101	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L102	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L103	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L104	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L105	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L106	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L107	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L108	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L201	1-424-653-11 s	COIL,CHOKE 10UH
L202	1-424-653-11 s	COIL,CHOKE 10UH
L203	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L204	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L205	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L206	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L207	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L208	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L209	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L210	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L211	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L212	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L213	1-414-235-22 s	INDUCTOR, FERRITE BEAD
L214	1-424-653-11 s	COIL,CHOKE 10UH
R109	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W) [for UP-D2600]
R110	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R111	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R112	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R113	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)

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Ref. No. or Q'ty	Part No.	SP Description
R114	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R115	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R116	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R117	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R118	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R119	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R120	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R121	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R122	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R123	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R124	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R125	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R126	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R127	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R128	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R129	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R130	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R131	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R132	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R133	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R134	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R135	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R136	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R137	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R138	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R139	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R140	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R141	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R142	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R143	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R144	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R145	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R146	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R147	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R148	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R149	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R150	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R151	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R152	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R153	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R154	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R155	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R156	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R157	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R158	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R159	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R160	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R161	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R162	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R163	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R164	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R165	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R166	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R167	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R168	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R169	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R170	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R171	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R172	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)





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Ref. No. or Q'ty	Part No.	SP Description
R245	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125)
R246	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600S]
	1-216-049-91 s	RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600]
R248	1-216-049-91 s	RESISTOR,CHIP 1K 1/10W(2125)
R249	1-216-097-91 s	RESISTOR,CHIP 100K 1/10W(2012)
R250	1-216-065-91 s	RESISTOR,CHIP 4.7K (2012)
R251	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R252	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R253	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R254	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R255	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R256	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R257	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R258	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R259	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R260	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R261	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R262	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R263	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R264	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R265	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R266	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R267	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R268	1-216-065-91 s	RESISTOR,CHIP 4.7K (2012)
R269	1-216-089-91 s	RESISTOR, CHIP 47K
R270	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125)
R271	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R272	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R273	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R274	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R275	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R276	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125)
R277	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125)
R278	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125)
R279	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R280	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R281	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R282	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R283	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]

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Ref. No. or Q'ty	Part No.	SP Description
R284	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R285	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R286	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R287	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R288	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R289	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R290	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R291	1-216-025-91 s	RESISTOR,CHIP 100 1/10W(2125) [for UP-D2600]
R292	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012) [for UP-D2600]
R293	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012) [for UP-D2600]
R294	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R295	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R296	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R297	1-216-049-91 s	RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600]
R298	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R299	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R300	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R301	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R302	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R304	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012) [for UP-D2600]
R305	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R309	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
R312	1-216-065-91 s	RESISTOR,CHIP 4.7K (2012)
R313	1-216-053-00 s	RESISTOR CHIP 1.5K 1/10W(2012) [for UP-D2600]
R314	1-216-053-00 s	RESISTOR CHIP 1.5K 1/10W(2012) [for UP-D2600]
R315	1-216-053-00 s	RESISTOR CHIP 1.5K 1/10W(2012) [for UP-D2600]
R316	1-216-049-91 s	RESISTOR,CHIP 1K 1/10W(2125)
R317	1-216-069-00 s	RESISTOR,CHIP 6.8K 1/10W(2012)
R318	1-216-017-91 s	RESISTOR, CHIP 47 1/10W(2012)
R320	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R321	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R322	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R323	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R324	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R325	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R326	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R327	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R328	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R329	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R330	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R331	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)
R332	1-216-033-00 s	RESISTOR,CHIP 220 1/10W(2012)

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Ref. No. or Q'ty	Part No.	SP Description
R333	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R334	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R335	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R336	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R337	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R338	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R339	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R340	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R341	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R342	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R343	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R344	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R345	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R346	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R347	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R348	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R349	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R350	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R351	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R352	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R353	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R354	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R355	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R356	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R357	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R358	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R359	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R360	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R361	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R362	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R363	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R364	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R365	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R366	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R367	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R368	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R369	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R370	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-295-91	s RESISTOR, CHIP 0 (1/10W) [for UP-D2600S]
R371	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-295-91	s RESISTOR, CHIP 0 (1/10W) [for UP-D2600S]
R372	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-295-91	s RESISTOR, CHIP 0 (1/10W) [for UP-D2600S]
R373	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600S]
R374	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600S]
R375	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600S]
R376	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600S]

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Ref. No. or Q'ty	Part No.	SP Description
R377	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600S]
R378	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600S]
R379	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600S]
R380	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125) [for UP-D2600S]
R381	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R382	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R383	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R384	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R391	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R392	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R393	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R394	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R395	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R396	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R397	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R398	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
R399	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012) [for UP-D2600]
S201	1-570-909-11	s SWITCH, TACTIL (REFLOW TYPE)
S202	1-570-909-11	s SWITCH, TACTIL (REFLOW TYPE)
S203	1-570-909-11	s SWITCH, TACTIL (REFLOW TYPE)
S204	1-570-909-11	s SWITCH, TACTIL (REFLOW TYPE)
S205	1-570-909-11	s SWITCH, TACTIL (REFLOW TYPE)
S206	1-570-909-11	s SWITCH, TACTIL (REFLOW TYPE)
S207	1-554-088-00	s SWITCH,KEY BOARD
X201	1-760-150-21	s VIBRATOR, CERAMIC (20MHZ)



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KY-401 BOARD  
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Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8316-464-A	o MOUNTED CIRCUIT BOARD, KY-401
CN1	1-770-697-11	s CONNECTOR, FFC/FPC 14P
S100	1-572-595-11	s SWITCH,TACTIL (REFLOW TYPE)
S101	1-572-595-11	s SWITCH,TACTIL (REFLOW TYPE)

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KY-422 BOARD  
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Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8316-356-A	o MOUNTED CIRCUIT BOARD, KY-422
CN501	1-564-718-11	s CONNECTOR, 2P, MALE
D501	8-719-041-51	s DIODE GL1EG111

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LE-190 BOARD  
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Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8323-811-A	o MOUNTED C BOARD, LE-190(D26S) [for UP-D2600S]
1pc	A-8324-419-A	o MOUNTED C BOARD, LE-190(D26) [for UP-D2600]
C401	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C402	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
CN401	1-770-690-11	s CONNECTOR, FFC/FPC 7P
D401	8-719-989-10	s LED SLP-355B-51
D402	8-719-033-19	s LED SLP-655B-51
D403	8-719-033-19	s LED SLP-655B-51
D404	8-719-033-19	s LED SLP-655B-51
Q401	8-729-900-53	s TRANSISTOR DTC114EK
Q402	8-729-900-53	s TRANSISTOR DTC114EK
Q403	8-729-900-53	s TRANSISTOR DTC114EK
Q404	8-729-900-53	s TRANSISTOR DTC114EK
R402	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R404	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R406	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R408	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)

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PRT-11 BOARD  
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Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8323-805-A	o MOUNTED CIRCUIT BOARD, PRT-11(D26)
1pc	8-759-650-72	o IC M27C1001-D26GV1.00
1pc	8-759-650-73	o IC M27C1001-12F1F8-DGTV200
C101	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C102	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C103	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C104	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C105	1-128-403-11	s CAPACITOR,ELECT 47MF/35V(CHIP)
C106	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C107	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C108	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C109	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C110	1-128-403-11	s CAPACITOR,ELECT 47MF/35V(CHIP)
C111	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C112	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C113	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C114	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C115	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C116	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C117	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C118	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C119	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C120	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C121	1-164-161-11	s CAPACITOR, CERAMIC 2200PF/100V
C122	1-164-161-11	s CAPACITOR, CERAMIC 2200PF/100V
C123	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C124	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C125	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C126	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C127	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C128	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C129	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C130	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C131	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C132	1-126-394-11	s CAPACITOR,ELECT 10MF/16V(CHIP)
C133	1-126-394-11	s CAPACITOR,ELECT 10MF/16V(CHIP)
C134	1-128-397-21	s CAPACITOR ELECT 100MF/16V CHIP
C135	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C136	1-163-235-11	s CAPACITOR,CHIP CERAMIC22PF/50V
C137	1-163-235-11	s CAPACITOR,CHIP CERAMIC22PF/50V
C138	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C139	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C140	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C142	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C143	1-128-397-21	s CAPACITOR ELECT 100MF/16V CHIP
C144	1-128-397-21	s CAPACITOR ELECT 100MF/16V CHIP
C145	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C146	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C147	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C148	1-128-397-21	s CAPACITOR ELECT 100MF/16V CHIP
C149	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C150	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C151	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C152	1-128-397-21	s CAPACITOR ELECT 100MF/16V CHIP
C153	1-128-403-11	s CAPACITOR,ELECT 47MF/35V(CHIP)
C154	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C155	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C156	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V

## (PRT-11 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
C157	1-128-403-11	s CAPACITOR, ELECT 47MF/35V(CHIP)
C158	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C159	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C160	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C161	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C162	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C163	1-128-393-11	s CAPACITOR, ELECT 100MF/10V
C164	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C165	1-128-393-11	s CAPACITOR, ELECT 100MF/10V
C166	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C167	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C168	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C169	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C170	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C171	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C172	1-163-275-11	s CAPACITOR CERAMIC 1000PF/50V
C173	1-163-275-11	s CAPACITOR CERAMIC 1000PF/50V
C174	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C176	1-163-275-11	s CAPACITOR CERAMIC 1000PF/50V
C177	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C178	1-128-397-21	s CAPACITOR ELECT 100MF/16V CHIP
C201	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C202	1-163-275-11	s CAPACITOR CERAMIC 1000PF/50V
C203	1-163-275-11	s CAPACITOR CERAMIC 1000PF/50V
C204	1-163-275-11	s CAPACITOR CERAMIC 1000PF/50V
C205	1-163-275-11	s CAPACITOR CERAMIC 1000PF/50V
C207	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C208	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C209	1-163-251-11	s CAPACITOR CERAMIC 100PF/50V
C210	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C211	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C212	1-163-235-11	s CAPACITOR, CHIP CERAMIC 22PF/50V
C213	1-163-235-11	s CAPACITOR, CHIP CERAMIC 22PF/50V
C216	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C217	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C218	1-163-251-11	s CAPACITOR CERAMIC 100PF/50V
C219	1-163-251-11	s CAPACITOR CERAMIC 100PF/50V
C220	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C221	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C222	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C223	1-128-235-11	s CAPACITOR ERECT 0.47MF/50V
C224	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C225	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C226	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C227	1-163-113-00	s CAPACITOR, CHIP CERAMIC 68PF/50
C228	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C229	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C230	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C231	1-164-161-11	s CAPACITOR, CERAMIC 2200PF/100V
CN1	1-564-729-11	o PIN, CONNECTOR (13P)
CN2	1-564-730-11	o PIN, CONNECTOR (14P)
CN3	1-774-333-11	s CONNECTOR, FFC/FPC 21P
CN4	1-779-937-11	s CONNECTOR, FFC/FPC 19P
CN5	1-779-935-11	s CONNECTOR, FFC/FPC 9P
CN6	1-770-697-11	s CONNECTOR, FFC/FPC 14P
CN7	1-770-697-11	s CONNECTOR, FFC/FPC 14P
CN8	1-770-705-11	s CONNECTOR, FFC/FPC 22P
CN9	1-770-695-11	s CONNECTOR, FFC/FPC 12P
CN10	1-774-771-11	s CONNECTOR, FFC/FPC 14P

## (PRT-11 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
CN11	1-770-470-21	o PIN, CONNECTOR (PC BOARD) 6P
CN12	1-770-160-21	s PIN, CONNECTOR (SMT) 2P
CN13	1-770-469-21	o PIN, CONNECTOR (PC BOARD) 2P
CN14	1-770-469-21	o PIN, CONNECTOR (PC BOARD) 2P
CN15	1-573-290-21	s PIN, CONNECTOR (4P) (SMD) (1.5MM)
CN16	1-770-160-21	s PIN, CONNECTOR (SMT) 2P
CN17	1-770-160-21	s PIN, CONNECTOR (SMT) 2P
CN18	1-580-055-21	o PIN, CONNECTOR 2P
CN20	1-764-250-11	o PIN, CONNECTOR (PC BOARD) 4P
CNI117	1-526-660-21	o SOCKET, IC (DP) 32P
CNI206	1-526-660-21	o SOCKET, IC (DP) 32P
D101	8-719-200-02	s DIODE 10E2 (RECTI)
D102	8-719-200-02	s DIODE 10E2 (RECTI)
D104	8-719-200-02	s DIODE 10E2 (RECTI)
D223	8-719-016-74	s DIODE 1SS352
IC101	8-759-322-54	s IC SLA7024M
IC102	8-759-926-49	s IC SN74HC245ANS
IC103	8-759-926-49	s IC SN74HC245ANS
IC104	8-759-926-49	s IC SN74HC245ANS
IC105	8-759-157-19	s IC MB3863PF-G-BND
IC106	8-759-100-95	s IC UPC324G2
IC107	8-759-178-20	s IC M62354FP
IC108	8-759-926-49	s IC SN74HC245ANS
IC109	8-759-925-76	s IC SN74HC08ANS
IC110	8-759-157-19	s IC MB3863PF-G-BND
IC111	8-759-926-21	s IC SN74HC161NS
IC112	8-759-254-94	s IC HD6413378F10
IC113	8-759-925-80	s IC SN74HC14ANS
IC114	8-759-925-90	s IC SN74HC74ANS
IC115	8-759-148-14	s IC UPD71055GB-3B4
IC118	8-759-983-69	s IC LM358PS
IC119	8-759-926-11	s IC SN74HC138ANS
IC201	8-759-925-76	s IC SN74HC08ANS
IC202	8-759-925-85	s IC SN74HC32ANS
IC204	8-759-926-82	s IC SN74HC574ANS
IC207	8-759-479-07	s IC CXD8653Q
IC208	8-759-476-50	s IC CXD8636Q
IC209	8-759-925-72	s IC SN74HC02ANS
IC210	8-759-189-55	s IC CXD8865R
JR1	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR2	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
L101	1-543-948-11	s BEAD, FERRITE (CHIP)
L103	1-543-948-11	s BEAD, FERRITE (CHIP)
L105	1-543-948-11	s BEAD, FERRITE (CHIP)
L107	1-543-948-11	s BEAD, FERRITE (CHIP)
L108	1-543-948-11	s BEAD, FERRITE (CHIP)
L109	1-543-948-11	s BEAD, FERRITE (CHIP)
L110	1-543-948-11	s BEAD, FERRITE (CHIP)
L111	1-543-948-11	s BEAD, FERRITE (CHIP)
L112	1-543-948-11	s BEAD, FERRITE (CHIP)
L113	1-543-948-11	s BEAD, FERRITE (CHIP)
L114	1-543-948-11	s BEAD, FERRITE (CHIP)
L115	1-543-948-11	s BEAD, FERRITE (CHIP)
L116	1-543-948-11	s BEAD, FERRITE (CHIP)
L117	1-543-948-11	s BEAD, FERRITE (CHIP)
L118	1-543-948-11	s BEAD, FERRITE (CHIP)
L119	1-543-948-11	s BEAD, FERRITE (CHIP)

## (PRT-11 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
L120	1-543-948-11	s BEAD, FERRITE (CHIP)
L121	1-543-948-11	s BEAD, FERRITE (CHIP)
L122	1-543-948-11	s BEAD, FERRITE (CHIP)
L123	1-543-948-11	s BEAD, FERRITE (CHIP)
L124	1-543-948-11	s BEAD, FERRITE (CHIP)
L125	1-543-948-11	s BEAD, FERRITE (CHIP)
L127	1-543-948-11	s BEAD, FERRITE (CHIP)
L129	1-543-948-11	s BEAD, FERRITE (CHIP)
L131	1-543-948-11	s BEAD, FERRITE (CHIP)
L133	1-424-653-11	s COIL, CHOKO 10UH
L134	1-424-653-11	s COIL, CHOKO 10UH
L135	1-424-653-11	s COIL, CHOKO 10UH
L137	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L141	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L143	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L144	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L145	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L146	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L201	1-543-948-11	s BEAD, FERRITE (CHIP)
L202	1-543-948-11	s BEAD, FERRITE (CHIP)
L203	1-543-948-11	s BEAD, FERRITE (CHIP)
L204	1-543-948-11	s BEAD, FERRITE (CHIP)
L205	1-543-948-11	s BEAD, FERRITE (CHIP)
L206	1-543-948-11	s BEAD, FERRITE (CHIP)
L207	1-543-948-11	s BEAD, FERRITE (CHIP)
L208	1-543-948-11	s BEAD, FERRITE (CHIP)
L209	1-543-948-11	s BEAD, FERRITE (CHIP)
L210	1-543-948-11	s BEAD, FERRITE (CHIP)
L211	1-543-948-11	s BEAD, FERRITE (CHIP)
L212	1-543-948-11	s BEAD, FERRITE (CHIP)
L214	1-543-948-11	s BEAD, FERRITE (CHIP)
L215	1-543-948-11	s BEAD, FERRITE (CHIP)
L216	1-424-653-11	s COIL, CHOKO 10UH
L217	1-424-653-11	s COIL, CHOKO 10UH
L219	1-543-948-11	s BEAD, FERRITE (CHIP)
L221	1-543-948-11	s BEAD, FERRITE (CHIP)
L222	1-543-948-11	s BEAD, FERRITE (CHIP)
L225	1-543-948-11	s BEAD, FERRITE (CHIP)
L226	1-543-948-11	s BEAD, FERRITE (CHIP)
L229	1-543-948-11	s BEAD, FERRITE (CHIP)
L230	1-543-948-11	s BEAD, FERRITE (CHIP)
L233	1-543-948-11	s BEAD, FERRITE (CHIP)
L236	1-543-948-11	s BEAD, FERRITE (CHIP)
L240	1-543-948-11	s BEAD, FERRITE (CHIP)
L241	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L242	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L243	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L244	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
L245	1-408-397-00	s MICRO INDUCTOR 1UH (LF-8)
Q101	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
Q102	8-729-140-75	s TRANSISTOR 2SD999-CLOCK
Q103	8-729-101-07	s TRANSISTOR 2SB798
Q104	8-729-017-80	s TRANSISTOR 2SD992-Z
Q105	8-729-114-48	s TRANSISTOR 2SB962-Z-P
Q107	8-729-114-48	s TRANSISTOR 2SB962-Z-P
Q110	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
Q111	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
R101	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)

## (PRT-11 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R102	1-216-065-91	s RESISTOR, CHIP 4.7K (2012)
R103	1-216-065-91	s RESISTOR, CHIP 4.7K (2012)
R104	1-216-065-91	s RESISTOR, CHIP 4.7K (2012)
R105	1-216-065-91	s RESISTOR, CHIP 4.7K (2012)
R106	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R107	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R108	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R109	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R110	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R111	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R112	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R113	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R114	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R115	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R116	1-216-089-91	s RESISTOR, CHIP 47K
R117	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R118	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R119	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R120	1-216-373-11	s RESISTOR, METAL FILM 2.2/2W
R121	1-216-057-00	s RESISTOR, CHIP 2.2K 1/10W(2012)
R122	1-216-057-00	s RESISTOR, CHIP 2.2K 1/10W(2012)
R123	1-216-373-11	s RESISTOR, METAL FILM 2.2/2W
R124	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R125	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R126	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R127	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R128	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R129	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R130	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R131	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R132	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R133	1-216-089-91	s RESISTOR, CHIP 47K
R134	1-216-025-91	s RESISTOR, CHIP 100 1/10W(2125)
R135	1-216-041-00	s RESISTOR, CHIP 470 1/10W(2012)
R136	1-216-023-00	s RESISTOR, CHIP 82 1/10W(2012)
R137	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R138	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R139	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R140	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R141	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R142	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R143	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R144	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R145	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R146	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R147	1-216-049-91	s RESISTOR, CHIP 1K 1/10W(2125)
R148	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R149	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R150	1-216-073-00	s RESISTOR, CHIP 10K 1/10W(2012)
R151	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R152	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R153	1-216-013-00	s RESISTOR, CHIP 33 1/10W(2012)
R154	1-216-049-91	s RESISTOR, CHIP 1K 1/10W(2125)
R155	1-216-049-91	s RESISTOR, CHIP 1K 1/10W(2125)
R156	1-216-049-91	s RESISTOR, CHIP 1K 1/10W(2125)
R157	1-216-049-91	s RESISTOR, CHIP 1K 1/10W(2125)
R158	1-216-049-91	s RESISTOR, CHIP 1K 1/10W(2125)
R159	1-216-037-00	s RESISTOR, CHIP 330 1/10W(2012)
R160	1-216-065-91	s RESISTOR, CHIP 4.7K (2012)

## (PRT-11 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R161	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R162	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125)
R163	1-215-881-11	s RESISTOR,METAL FILM 15/2W
R165	1-216-309-00	s RESISTOR,CHIP 5.6 1/10W(2012)
R166	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125)
R167	1-216-029-00	s RESISTOR,CHIP 150 1/10W(2012)
R170	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125)
R171	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R172	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125)
R173	1-216-033-00	s RESISTOR,CHIP 220 1/10W(2012)
R174	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125)
R175	1-216-065-91	s RESISTOR,CHIP 4.7K (2012)
R176	1-216-065-91	s RESISTOR,CHIP 4.7K (2012)
R178	1-216-065-91	s RESISTOR,CHIP 4.7K (2012)
R179	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125)
R181	1-216-689-11	s RESISTOR,CHIP 39K 1/10W(2012)
R182	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R183	1-216-069-00	s RESISTOR,CHIP 6.8K 1/10W(2012)
R190	1-216-689-11	s RESISTOR,CHIP 39K 1/10W(2012)
R191	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R192	1-216-069-00	s RESISTOR,CHIP 6.8K 1/10W(2012)
R196	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R197	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R198	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R201	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R202	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R203	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R204	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R205	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R206	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R207	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R208	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R209	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R210	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R211	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R212	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R213	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R214	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R215	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R216	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R217	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R218	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R219	1-216-121-91	s RESISTOR,CHIP 1M 1/10W(2125)
R220	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R221	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R222	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R223	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R224	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R225	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R226	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R227	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R228	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R229	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R230	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R231	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R232	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R233	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R234	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R235	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)

## (PRT-11 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R236	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R237	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R238	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R239	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R240	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R241	1-216-295-91	s RESISTOR,CHIP 0 (1/10W)
R243	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R244	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R245	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R246	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R247	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R248	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R249	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R250	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R251	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R252	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R253	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R254	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R255	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R256	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R257	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R258	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R259	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R260	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R261	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R262	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R263	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R264	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R265	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R266	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R267	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R268	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R269	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R270	1-216-065-91	s RESISTOR,CHIP 4.7K (2012)
R271	1-216-097-91	s RESISTOR,CHIP 100K 1/10W(2012)
R272	1-216-009-00	s RESISTOR,CHIP 22 1/10W(2125)
R273	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R274	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R275	1-216-065-91	s RESISTOR,CHIP 4.7K (2012)
R276	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R277	1-216-025-91	s RESISTOR,CHIP 100 1/10W(2125)
R278	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R279	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R280	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R281	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R291	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125)
R292	1-216-049-91	s RESISTOR,CHIP 1K 1/10W(2125)
R1000	1-215-881-11	s RESISTOR,METAL FILM 15/2W
S1	1-570-909-11	s SWITCH, TACTIL (REFLOW TYPE)
TH1	1-809-357-21	s THERMISTOR
X101	1-579-996-21	s VIBRATOR, CERAMIC
X201	1-579-996-21	s VIBRATOR, CERAMIC
X202	1-760-590-21	s OSCILLATOR, CRYSTAL

## SE-417 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8315-872-A	o MOUNTED CIRCUIT BOARD, SE-417
C1	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C2	1-163-275-11	s CAPACITOR CERAMIC 1000PF/50V
C3	1-163-275-11	s CAPACITOR CERAMIC 1000PF/50V
C4	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C5	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C6	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C7	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C8	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
C9	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C10	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C11	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C12	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C13	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C14	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C15	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C16	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C17	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C18	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C19	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C20	1-163-133-00	s CAPACITOR,CHIP CERAMIC 470PF
C21	1-126-394-11	s CAPACITOR,ELECT 10MF/16V(CHIP)
C22	1-104-608-11	s CAPACITOR, ELECT 33MF/6.3V
C23	1-163-038-91	s CAPACITOR, CERAMIC 0.1MF/25V
CN1	1-580-057-11	o PIN,CONNECTOR 4P
CN2	1-580-055-21	o PIN, CONNECTOR 2P
CN3	1-569-775-21	o PIN, CONNECTOR 5P
CN4	1-580-056-21	o PIN,CONNECTOR 3P
CN5	1-580-056-21	o PIN,CONNECTOR 3P
CN6	1-569-775-21	o PIN, CONNECTOR 5P
CN7	1-770-705-11	s CONNECTOR, FFC/FPC 22P
IC1	8-759-527-73	s IC M24C01-MN6T
IC2	8-759-926-49	s IC SN74HC245ANS
IC5	8-759-100-95	s IC UPC324G2
IC6	8-759-100-95	s IC UPC324G2
IC7	8-759-085-67	s IC LM339NS
JR1	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR2	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR3	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR4	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR5	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR6	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR7	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR8	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR9	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR10	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR11	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR12	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR13	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR14	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR15	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR16	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR17	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR18	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR19	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR20	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR21	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)

## (SE-417 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
JR22	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR23	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR24	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR25	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR26	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR27	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR28	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR29	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR30	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR31	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR32	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR33	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR34	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR35	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR36	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR37	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR38	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR39	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR40	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR41	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR42	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR43	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR44	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR45	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR46	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR47	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR48	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR49	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR50	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR51	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR52	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR53	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR54	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR55	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR56	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR57	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
JR58	1-216-295-91	s RESISTOR, CHIP 0 (1/10W)
PH1	8-749-923-97	s IC GP2S40
Q1	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
Q2	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
Q3	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
Q4	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
R1	1-216-029-00	s RESISTOR,CHIP 150 1/10W(2012)
R2	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R3	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R4	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R5	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R6	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R7	1-216-029-00	s RESISTOR,CHIP 150 1/10W(2012)
R8	1-216-013-00	s RESISTOR,CHIP 33 1/10W(2012)
R9	1-216-029-00	s RESISTOR,CHIP 150 1/10W(2012)
R10	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R11	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R12	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R13	1-216-029-00	s RESISTOR,CHIP 150 1/10W(2012)
R14	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R15	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)

## (SE-417 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R16	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R17	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R18	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R19	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R20	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R21	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R22	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R23	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R24	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R25	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R26	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R27	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R28	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R29	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R30	1-216-105-91 s	RESISTOR,CHIP 220K 1/10W(2125)
R31	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R32	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R33	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R34	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R35	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R36	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R37	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R38	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R39	1-216-081-00 s	RESISTOR,CHIP 22K 1/10W(2012)
R40	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R41	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R42	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R43	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R44	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R45	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R46	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R47	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R48	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R49	1-216-295-91 s	RESISTOR,CHIP 0 (1/10W)

## SE-418 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8315-874-A o	MOUNTED CIRCUIT BOARD, SE-418
C101	1-163-133-00 s	CAPACITOR,CHIP CERAMIC 470PF
C102	1-163-133-00 s	CAPACITOR,CHIP CERAMIC 470PF
C103	1-163-133-00 s	CAPACITOR,CHIP CERAMIC 470PF
C104	1-163-133-00 s	CAPACITOR,CHIP CERAMIC 470PF
C105	1-163-133-00 s	CAPACITOR,CHIP CERAMIC 470PF
C106	1-163-133-00 s	CAPACITOR,CHIP CERAMIC 470PF
C107	1-163-133-00 s	CAPACITOR,CHIP CERAMIC 470PF
C108	1-104-608-11 s	CAPACITOR, ELECT 33MF/6.3V
C109	1-163-038-91 s	CAPACITOR, CERAMIC 0.1MF/25V
CN101	1-691-550-11 s	PIN,CONNECTOR (3P)(SMD)(1.5MM)
CN102	1-691-550-11 s	PIN,CONNECTOR (3P)(SMD)(1.5MM)
CN103	1-573-768-21 o	PIN, CONNECTOR (5P)(SMD)(1.5MM)
CN104	1-573-768-21 o	PIN, CONNECTOR (5P)(SMD)(1.5MM)
CN105	1-778-276-11 s	CONNECTOR, FFC/FPC (NON ZIF)
IC101	8-759-926-49 s	IC SN74HC245ANS
JR101	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
JR102	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
JR103	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
JR104	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
JR105	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
JR106	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
JR107	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
JR108	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
JR109	1-216-295-91 s	RESISTOR, CHIP 0 (1/10W)
PH101	8-749-010-69 s	PHOTO INTERRUPTER GP1S58V
Q101	8-729-101-07 s	TRANSISTOR 2SB798
Q102	8-729-901-00 s	TRANSISTOR DTC124EK
R101	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R102	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R103	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R104	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R105	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R106	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R107	1-216-029-00 s	RESISTOR,CHIP 150 1/10W(2012)
R108	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R109	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R110	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R111	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R112	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R113	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R114	1-216-013-00 s	RESISTOR,CHIP 33 1/10W(2012)
R115	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R116	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R117	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R118	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R119	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R120	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R121	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R122	1-216-073-00 s	RESISTOR,CHIP 10K 1/10W(2012)
R123	1-216-049-91 s	RESISTOR,CHIP 1K 1/10W(2125)



-----  
SE-419 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-667-005-13	o PRINTED WIRING BOARD, SE-419
CN150	1-573-290-21	s PIN, CONNECTOR (4P) (SMD) (1.5MM)
PH150	8-719-052-69	s PHOTO INTERRUPTER RPI-352
S150	1-571-958-11	s SWITCH, PUSH (1 KEY)

-----  
SE-420 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-667-006-11	o PRINTED WIRING BOARD, SE-420
CN201	1-573-768-21	o PIN, CONNECTOR (5P) (SMD) (1.5MM)
PH201	8-719-052-69	s PHOTO INTERRUPTER RPI-352
PH202	8-719-052-69	s PHOTO INTERRUPTER RPI-352

-----  
SE-422 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-667-007-11	o PRINTED WIRING BOARD, SE-422
CN250	1-580-056-21	o PIN, CONNECTOR 3P
PH250	8-749-923-97	s IC GP2S40

-----  
SE-423 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-666-983-12	o PRINTED WIRING BOARD, SE-423
CN301	1-580-056-21	o PIN, CONNECTOR 3P
D301	8-719-938-07	s LED GL480
D302	8-719-938-07	s LED GL480

-----  
SE-424 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-666-984-12	o PRINTED WIRING BOARD, SE-424
CN350	1-580-056-21	o PIN, CONNECTOR 3P
Q350	8-729-930-95	s PHOTO TRANSISTOR PT480F
Q351	8-729-930-95	s PHOTO TRANSISTOR PT480F

-----  
SE-425 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-666-985-11	o PRINTED WIRING BOARD, SE-425
CN401	1-580-056-21	o PIN, CONNECTOR 3P
CN402	1-569-775-21	o PIN, CONNECTOR 5P
PH401	8-749-923-97	s IC GP2S40

-----  
SE-426 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-666-986-11	o PRINTED WIRING BOARD, SE-426
CN450	1-564-707-11	o PIN, CONNECTOR (5P)
PH450	8-749-010-50	s PHOTO INTERRUPTER RPI-5100
PH451	8-719-052-69	s PHOTO INTERRUPTER RPI-352

-----  
SE-427 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-666-987-11	o PRINTED WIRING BOARD, SE-427
CN501	1-691-550-11	s PIN, CONNECTOR (3P) (SMD) (1.5MM)
PH501	8-749-010-50	s PHOTO INTERRUPTER RPI-5100

-----  
SE-428 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-666-988-11	o PRINTED WIRING BOARD, SE-428
CN550	1-580-056-21	o PIN, CONNECTOR 3P
PH550	8-719-939-05	s PHOTO INTERRUPTER GP1S54

-----  
SE-429 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-666-997-11	o PRINTED WIRING BOARD, SE-429
CN601	1-569-775-21	o PIN, CONNECTOR 5P
PH601	8-719-052-69	s PHOTO INTERRUPTER RPI-352
PH602	8-719-052-69	s PHOTO INTERRUPTER RPI-352

-----  
SE-430 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-666-998-11	o PRINTED WIRING BOARD, SE-430
CN650	1-580-057-11	o PIN, CONNECTOR 4P
CN651	1-778-273-11	s CONNECTOR (RESEPTACLE) 15P

-----  
SU-36 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-666-999-11	o PRINTED WIRING BOARD, SU-36
1pc	3-609-448-01	s PULLEY, HEAD MOTOR
CN750	1-770-160-21	s PIN, CONNECTOR (SMT) 2P
M750	1-541-309-11	s MOTOR, (RF-370C) (DC) (2.59W)

-----  
SU-37 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-667-000-11	o PRINTED WIRING BOARD, SU-37
1pc	3-737-886-01	s TABLE, WORM
CN801	1-770-160-21	s PIN, CONNECTOR (SMT) 2P
M801	1-541-309-11	s MOTOR, (RF-370C) (DC) (2.59W)

-----  
SU-38 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-667-001-11	o PRINTED WIRING BOARD, SU-38
1pc	3-737-886-01	s TABLE, WORM
CN850	1-770-160-21	s PIN, CONNECTOR (SMT) 2P
M850	1-541-309-11	s MOTOR, (RF-370C) (DC) (2.59W)

-----  
SU-39 BOARD  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-667-002-11	o PRINTED WIRING BOARD, SU-39
1pc	3-609-400-02	s PULLEY, PAPER SUPPLY MOTOR
CN901	1-564-718-11	s PIN, CONNECTOR (2P)
M901	1-698-323-11	s MOTOR, DC



-----  
FRAME  
-----

Ref. No. or Q'ty	Part No.	SP Description
1pc	Δ 1-468-250-14	s REGULATOR, SWITCHING
1pc	1-500-535-11	s HEAD, THERMAL (F3298)
1pc	1-564-718-11	s PIN, CONNECTOR (2P)
1pc	1-692-960-11	s SWITCH, PUSH
1pc	1-698-555-21	s MOTOR, STEPPING (PM42S-048-SNA6)
2pcs	1-763-158-11	s D.C.FAN
1pc	1-763-347-11	s FAN, D.C.
1pc	1-782-729-11	s WIRE, FLAT TYPE (7 CORE)
1pc	1-782-730-11	s WIRE, FLAT TYPE (14 CORE)
2pcs	1-782-734-11	s WIRE, FLAT TYPE (14 CORE)
1pc	1-782-735-11	s WIRE, FLAT TYPE (22 CORE)
1pc	1-782-736-11	s WIRE, FLAT TYPE (12 CORE)
1pc	1-782-738-11	s WIRE, FLAT TYPE (21 CORE)
1pc	1-782-739-11	s WIRE, FLAT TYPE (19 CORE)

HN001 -----  
(TO CN004/SWITCHING REGULATOR)  
1pc 1-562-647-11 o SOCKET, CONNECTOR 5P  
5pcs 1-562-643-11 o TERMINAL, SOLDERLESS  
(TO CN203/IF-787,788 BOARD)  
1pc 1-562-647-11 o SOCKET, CONNECTOR 5P  
5pcs 1-562-643-11 o TERMINAL, SOLDERLESS

HN002 -----  
(TO CN001/SWITCHING REGULATOR)  
14pcs 1-562-643-11 o TERMINAL, SOLDERLESS  
(TO CN002/PRT-11 BOARD)  
14pcs 1-562-643-11 o TERMINAL, SOLDERLESS

HN003 -----  
(TO CN002/SWITCHING REGULATOR)  
1pc 1-562-655-11 o SOCKET, CONNECTOR 13P  
13pcs 1-562-643-11 o TERMINAL, SOLDERLESS  
(TO CN001/PRT-11 BOARD)  
1pc 1-562-655-11 o SOCKET, CONNECTOR 13P  
13pcs 1-562-643-11 o TERMINAL, SOLDERLESS

HN004 -----  
(TO CN650/SE-430 BOARD)  
1pc 1-569-619-11 o HOUSING, CONNECTOR 4P  
4pcs 1-565-977-11 s TERMINAL, SOLDERLESS  
(TO CN015/PRT-11 BOARD)  
1pc 1-569-619-11 o HOUSING, CONNECTOR 4P  
4pcs 1-565-977-11 s TERMINAL, SOLDERLESS

HN005 -----  
(TO CN501/KY-422 BOARD)  
1pc 1-562-644-11 s SOCKET, CONNECTOR 2P  
2pcs 1-562-643-11 o TERMINAL, SOLDERLESS  
(TO CN103/IF-787,788 BOARD)  
1pc 1-562-644-11 s SOCKET, CONNECTOR 2P  
2pcs 1-562-643-11 o TERMINAL, SOLDERLESS

HN006 -----  
(TO CN016/PRT-11 BOARD)  
1pc 1-562-644-11 s SOCKET, CONNECTOR 2P  
2pcs 1-562-643-11 o TERMINAL, SOLDERLESS  
(TO CN750/SU-36 BOARD)  
1pc 1-562-644-11 s SOCKET, CONNECTOR 2P  
2pcs 1-562-643-11 o TERMINAL, SOLDERLESS

HN007 -----  
(TO CN801/SU-37 BOARD)  
1pc 1-562-644-11 s SOCKET, CONNECTOR 2P  
2pcs 1-562-643-11 o TERMINAL, SOLDERLESS  
(TO CN013/PRT-11 BOARD)  
1pc 1-562-644-11 s SOCKET, CONNECTOR 2P  
2pcs 1-562-643-11 o TERMINAL, SOLDERLESS

HN008 -----  
(TO CN850/SU-38 BOARD)  
1pc 1-562-644-11 s SOCKET, CONNECTOR 2P  
2pcs 1-562-643-11 o TERMINAL, SOLDERLESS  
(TO CN014/PRT-11 BOARD)  
1pc 1-562-644-11 s SOCKET, CONNECTOR 2P  
2pcs 1-562-643-11 o TERMINAL, SOLDERLESS

(FRAME)

Ref. No. or Q'ty	Part No.	SP Description
HN009	-----	
	(TO CN012/PRT-11 BOARD)	
1pc	1-562-644-11	s SOCKET, CONNECTOR 2P
2pcs	1-562-643-11	o TERMINAL, SOLDERLESS
	(TO CN901/SU-39 BOARD)	
1pc	1-562-644-11	s SOCKET, CONNECTOR 2P
2pcs	1-562-643-11	o TERMINAL, SOLDERLESS
HN010	-----	
	(TO CN3/SE-417 BOARD)	
1pc	1-569-620-11	o HOUSING, CONNECTOR 5P
5pcs	1-565-977-11	s TERMINAL, SOLDERLESS
	(TO CN201/SE-420 BOARD)	
1pc	1-569-620-11	o HOUSING, CONNECTOR 5P
5pcs	1-565-977-11	s TERMINAL, SOLDERLESS

HN011 -----  
(TO CN401/SE-425 BOARD)  
1pc 1-569-618-11 o HOUSING, CONNECTOR 3P  
3pcs 1-565-977-11 s TERMINAL, SOLDERLESS  
(TO CN301/SE-423 BOARD)  
1pc 1-569-618-11 o HOUSING, CONNECTOR 3P  
3pcs 1-565-977-11 s TERMINAL, SOLDERLESS

HN012 -----  
(TO CN1/SE-417 BOARD)  
1pc 1-569-619-11 o HOUSING, CONNECTOR 4P  
4pcs 1-565-977-11 s TERMINAL, SOLDERLESS  
(TO CN150/SE-419 BOARD)  
1pc 1-569-619-11 o HOUSING, CONNECTOR 4P  
4pcs 1-565-977-11 s TERMINAL, SOLDERLESS

HN013 -----  
(TO CN2/SE-417 BOARD)  
1pc 1-569-617-11 o HOUSING, CONNECTOR 2P  
4pcs 1-565-977-11 s TERMINAL, SOLDERLESS  
(TO PUSH SWITCH)  
1pc 1-573-466-11 o HOUSING, CONNECTOR 2P

HN014 -----  
(TO CN4/SE-417 BOARD)  
1pc 1-569-618-11 o HOUSING, CONNECTOR 3P  
3pcs 1-565-977-11 s TERMINAL, SOLDERLESS  
(TO CN250/SE-422 BOARD)  
1pc 1-569-618-11 o HOUSING, CONNECTOR 3P  
3pcs 1-565-977-11 s TERMINAL, SOLDERLESS

HN015 -----  
(TO CN5/SE-417 BOARD)  
1pc 1-569-618-11 o HOUSING, CONNECTOR 3P  
3pcs 1-565-977-11 s TERMINAL, SOLDERLESS  
(TO CN350/SE-424 BOARD)  
1pc 1-569-618-11 o HOUSING, CONNECTOR 3P  
3pcs 1-565-977-11 s TERMINAL, SOLDERLESS

HN016 -----  
(TO CN6/SE-417 BOARD)  
1pc 1-569-620-11 o HOUSING, CONNECTOR 5P  
5pcs 1-565-977-11 s TERMINAL, SOLDERLESS  
(TO CN402/SE-425 BOARD)  
1pc 1-569-620-11 o HOUSING, CONNECTOR 5P  
5pcs 1-565-977-11 s TERMINAL, SOLDERLESS

HN017 -----  
(TO CN102/SE-418 BOARD)  
1pc 1-569-618-11 o HOUSING, CONNECTOR 3P  
3pcs 1-565-977-11 s TERMINAL, SOLDERLESS  
(TO CN550/SE-428 BOARD)  
1pc 1-569-618-11 o HOUSING, CONNECTOR 3P  
3pcs 1-565-977-11 s TERMINAL, SOLDERLESS

HN018 -----  
(TO CN103/SE-418 BOARD)  
1pc 1-569-620-11 o HOUSING, CONNECTOR 5P  
5pcs 1-565-977-11 s TERMINAL, SOLDERLESS

## (FRAME)

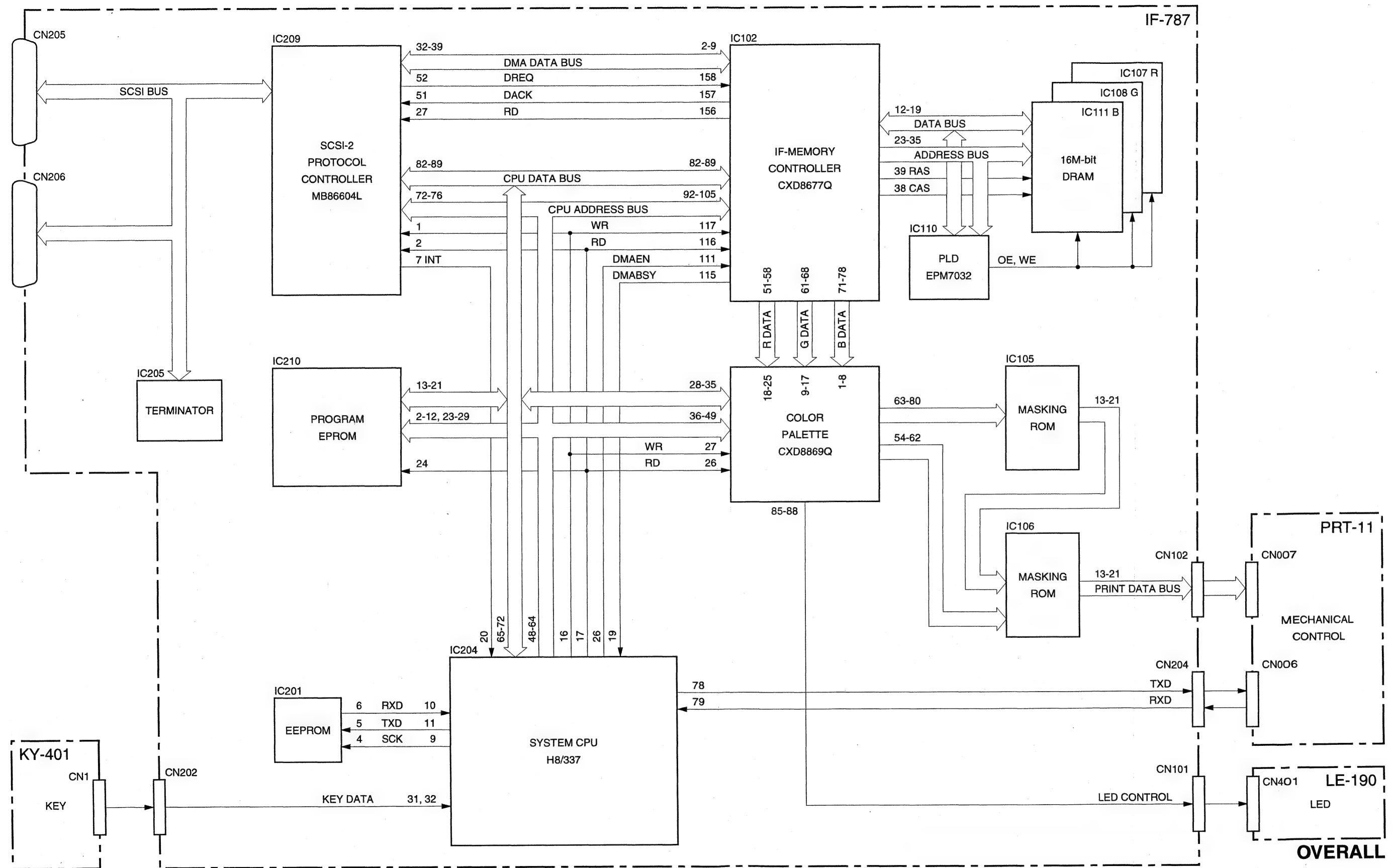
Ref. No. or Q'ty	Part No.	SP Description
(TO CN601/SE-429 BOARD)		
1pc	1-569-620-11	o HOUSING, CONNECTOR 5P
5pcs	1-565-977-11	s TERMINAL, SOLDERLESS
HN019 -----		
(TO CN101/SE-418 BOARD)		
1pc	1-569-618-11	o HOUSING, CONNECTOR 3P
3pcs	1-565-977-11	s TERMINAL, SOLDERLESS
(TO CN501/SE-427 BOARD)		
1pc	1-569-618-11	o HOUSING, CONNECTOR 3P
3pcs	1-565-977-11	s TERMINAL, SOLDERLESS
HN020 -----		
(TO CN104/SE-418 BOARD)		
1pc	1-569-620-11	o HOUSING, CONNECTOR 5P
5pcs	1-565-977-11	s TERMINAL, SOLDERLESS
(TO CN450/SE-426 BOARD)		
1pc	1-562-647-11	o SOCKET, CONNECTOR 5P
5pcs	1-562-643-11	o TERMINAL, SOLDERLESS

-----  
PACKING MATERIALS & SUPPLIED ACCESSORIES  
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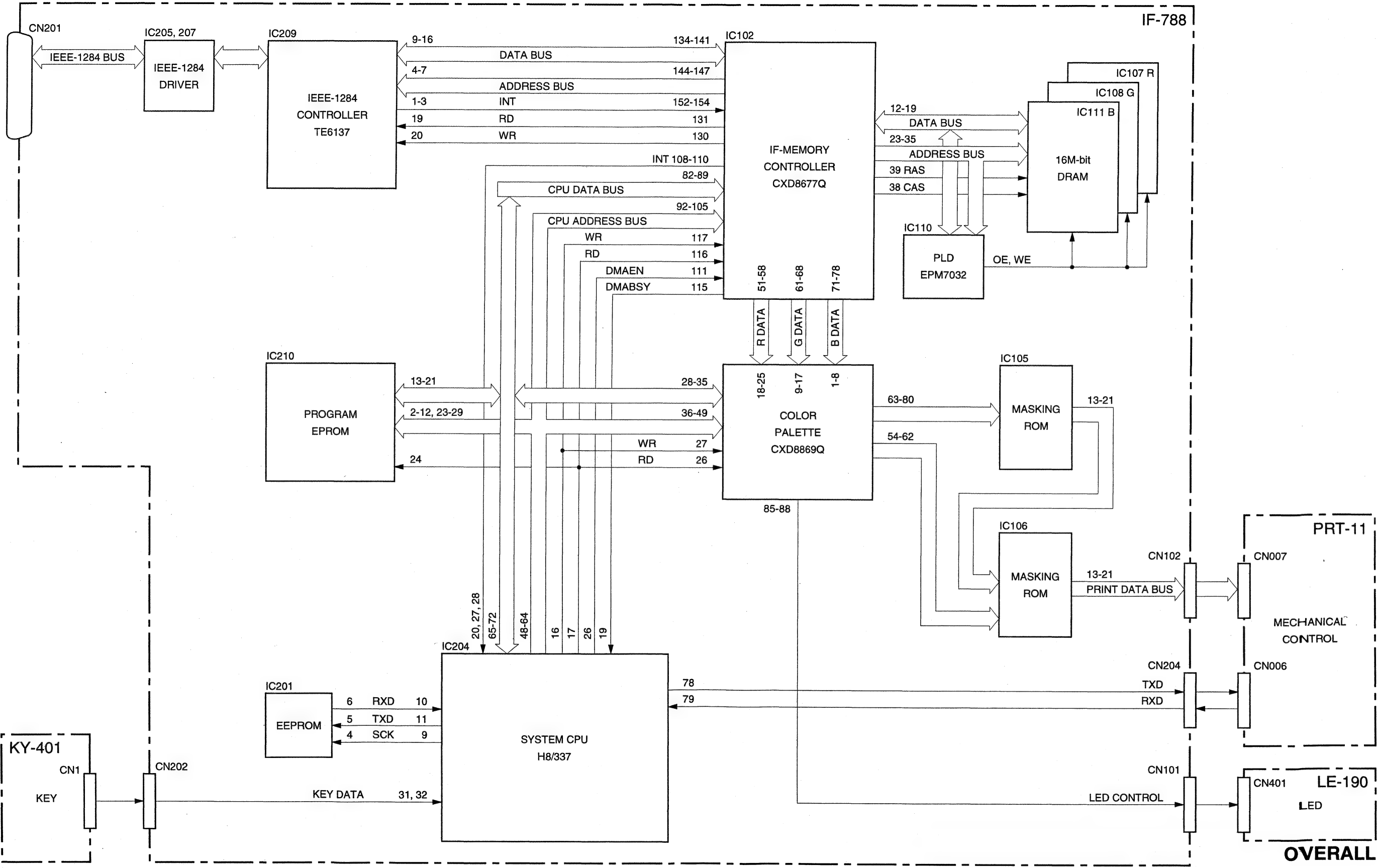
Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8278-738-C	s TRAY ASSY, STD
1pc	Δ 1-551-631-22	s CORD, POWER [for UP-D2600S(CE)/UP-D2600(CE)]
1pc	Δ 1-559-945-11	s CORD, POWER [for UP-D2600S(UC)/UP-D2600(UC)]
1pc	Δ 1-783-954-11	s CORD, POWER [for UP-D2600S(UC)/UP-D2600(UC)]
1pc	Δ 1-791-041-11	s CORD SET, POWER (3P) [for UP-D2600S(J)/UP-D2600(J)]
1pc	Δ 1-793-461-11	o PLUG, CONVERSION (3P-2P) [for UP-D2600S(J)/UP-D2600(J)]
1pc	3-203-517-01	s MANUAL, INSTRUCTION [for UP-D2600(J)]
1pc	3-203-517-11	s MANUAL, INSTRUCTION [for UP-D2600(UC)]
1pc	3-203-517-21	s MANUAL, INSTRUCTION [for UP-D2600(CE)]
1pc	3-608-977-02	s CLAW, F
1pc	3-608-978-02	s CLAW, R
1pc	3-609-528-01	o TRAY, PAPER EJECT
1pc	3-614-209-02	s SHEET B, TRAY
1pc	3-616-774-01	s CLAW, F
1pc	3-616-775-01	s CLAW, R
1pc	3-868-154-01	s MANUAL, INSTRUCTION [for UP-D2600S(J)]
1pc	3-868-154-11	s MANUAL, INSTRUCTION [for UP-D2600S(UC)]
1pc	3-868-154-21	s MANUAL, INSTRUCTION [for UP-D2600S(CE)]

# Section 9 Block Diagrams

UP-D2600S



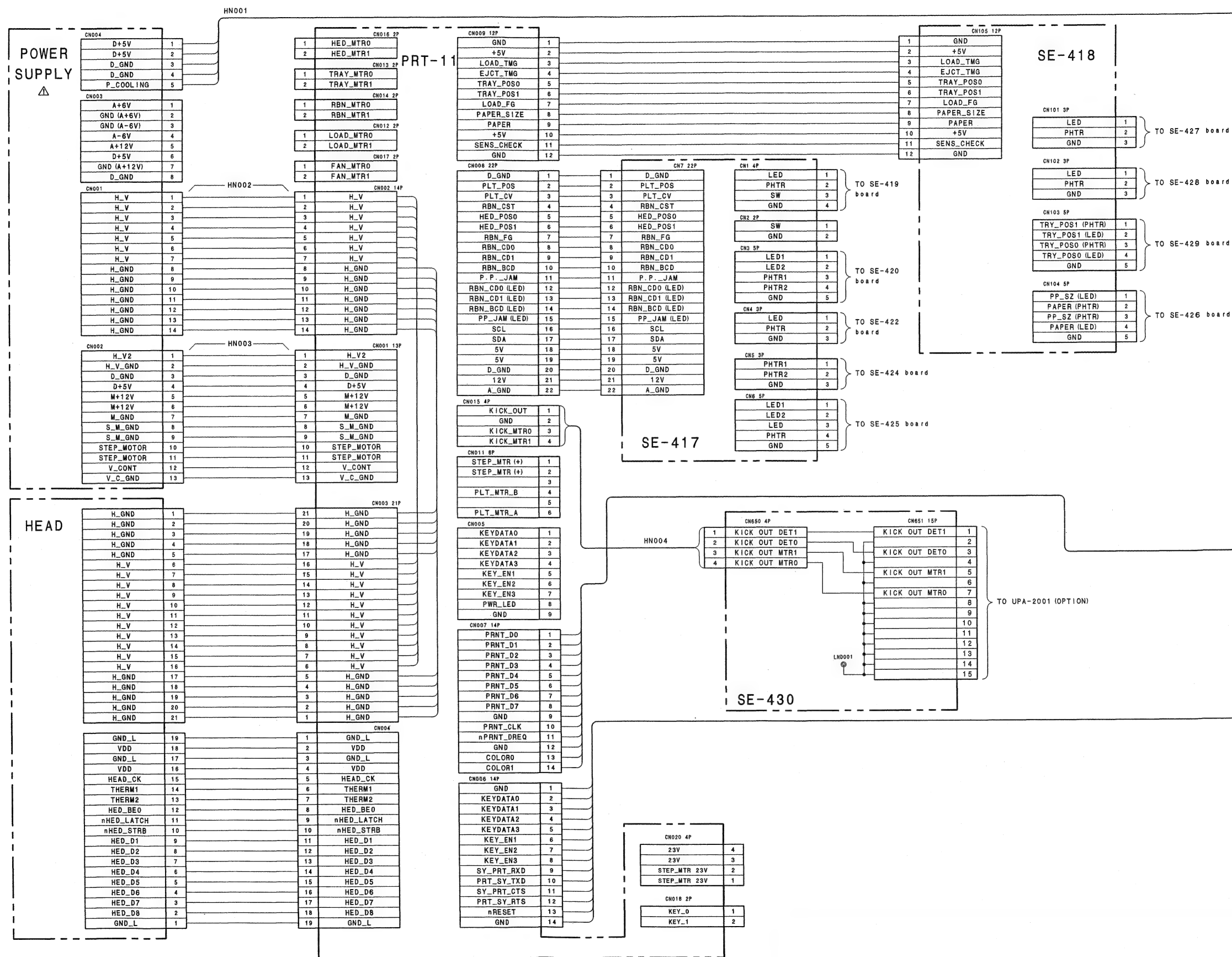
UP-D2600

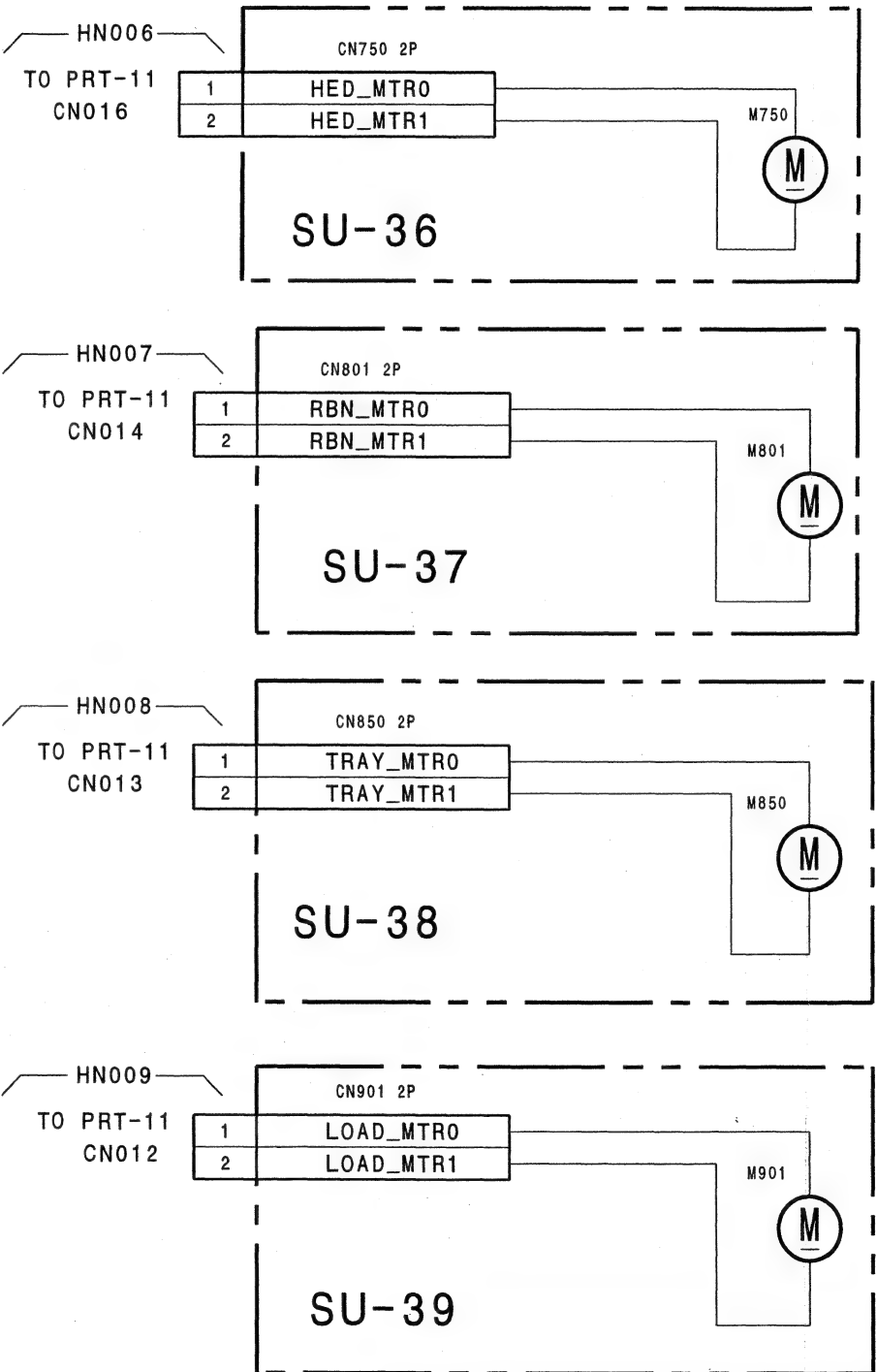
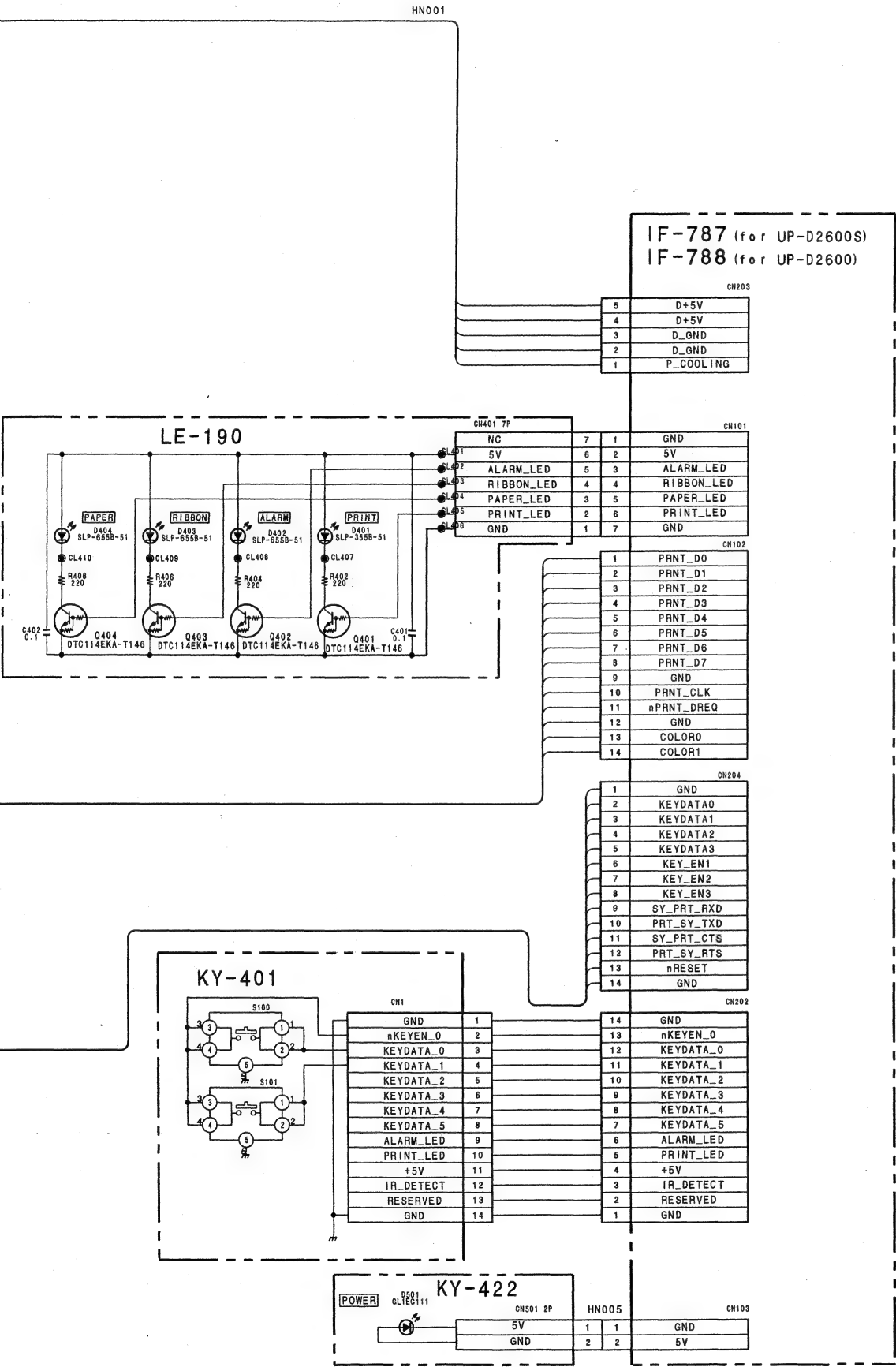


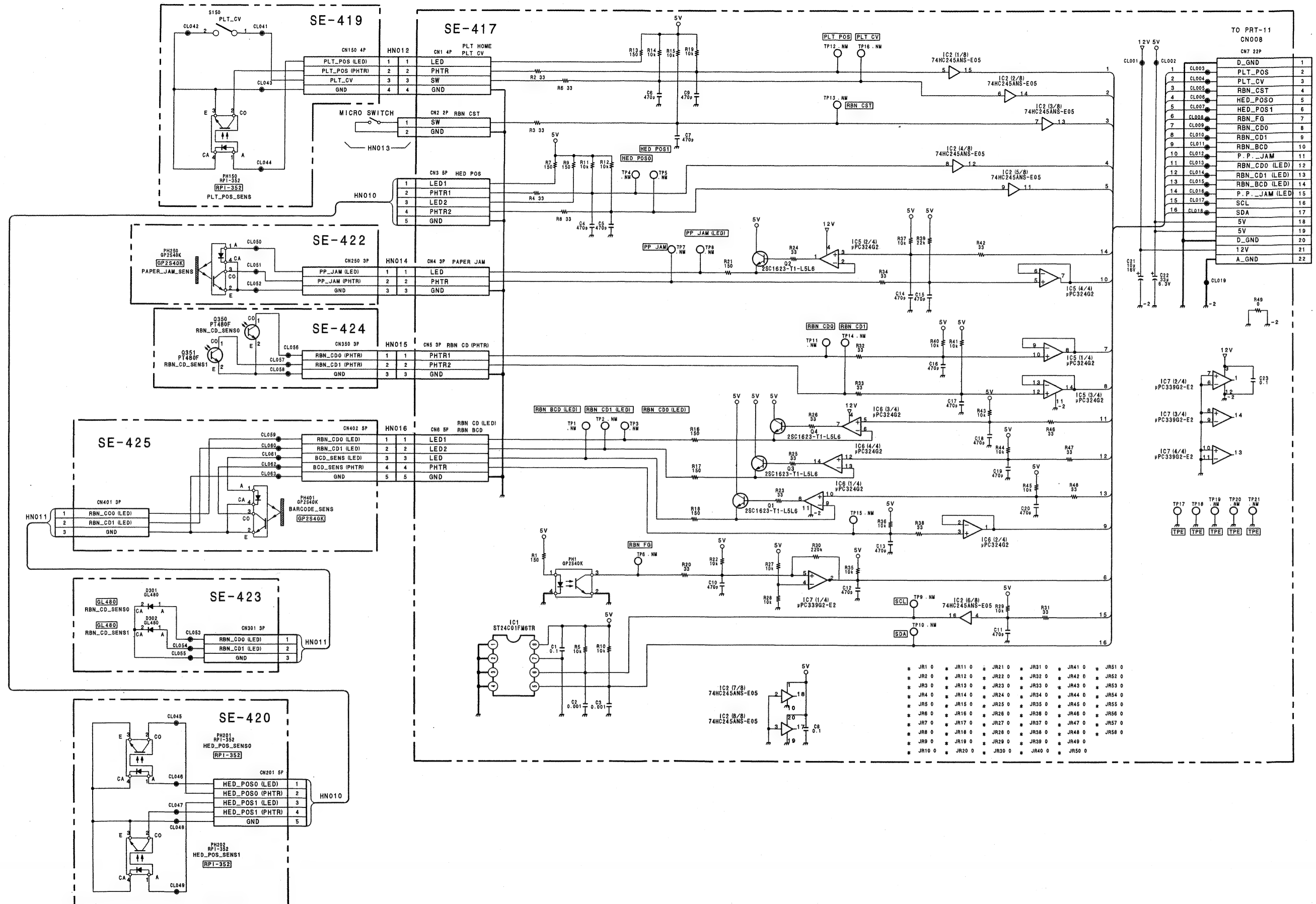
OVERALL

**Section 10**  
**Schematic Diagrams and Board Layouts**

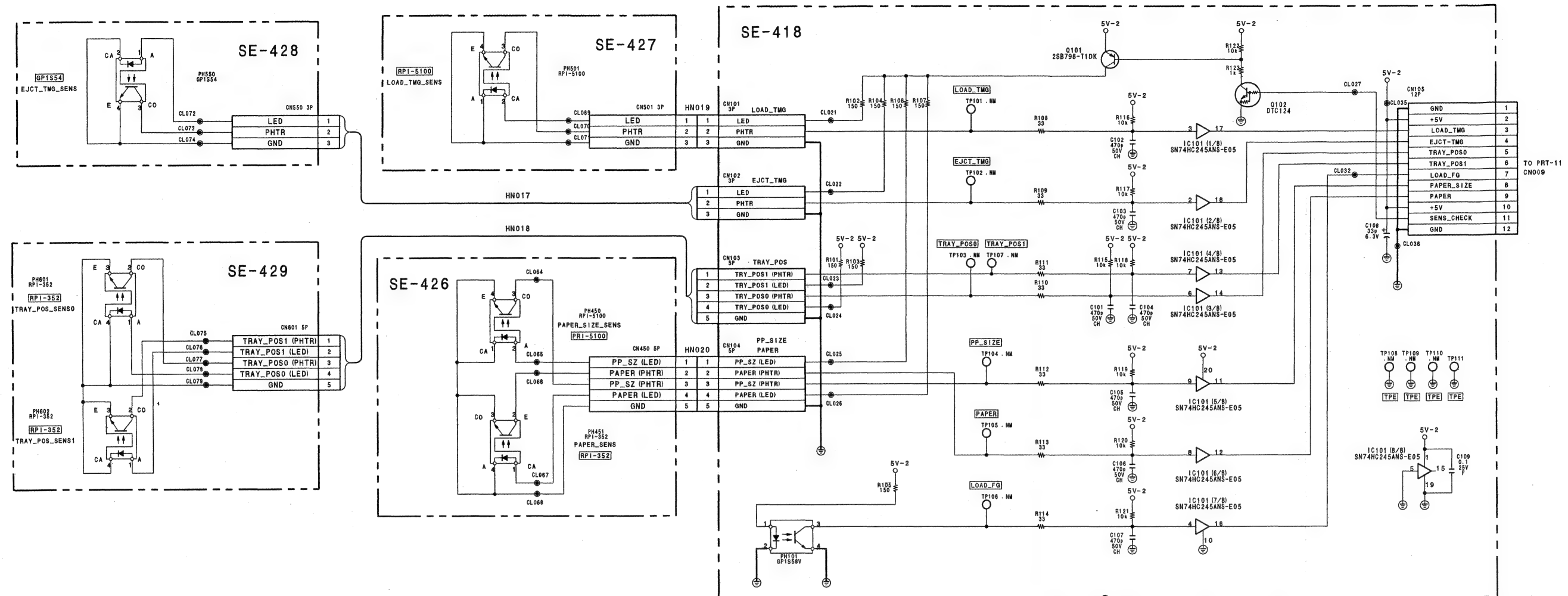
## 10-1. Schematic Diagrams



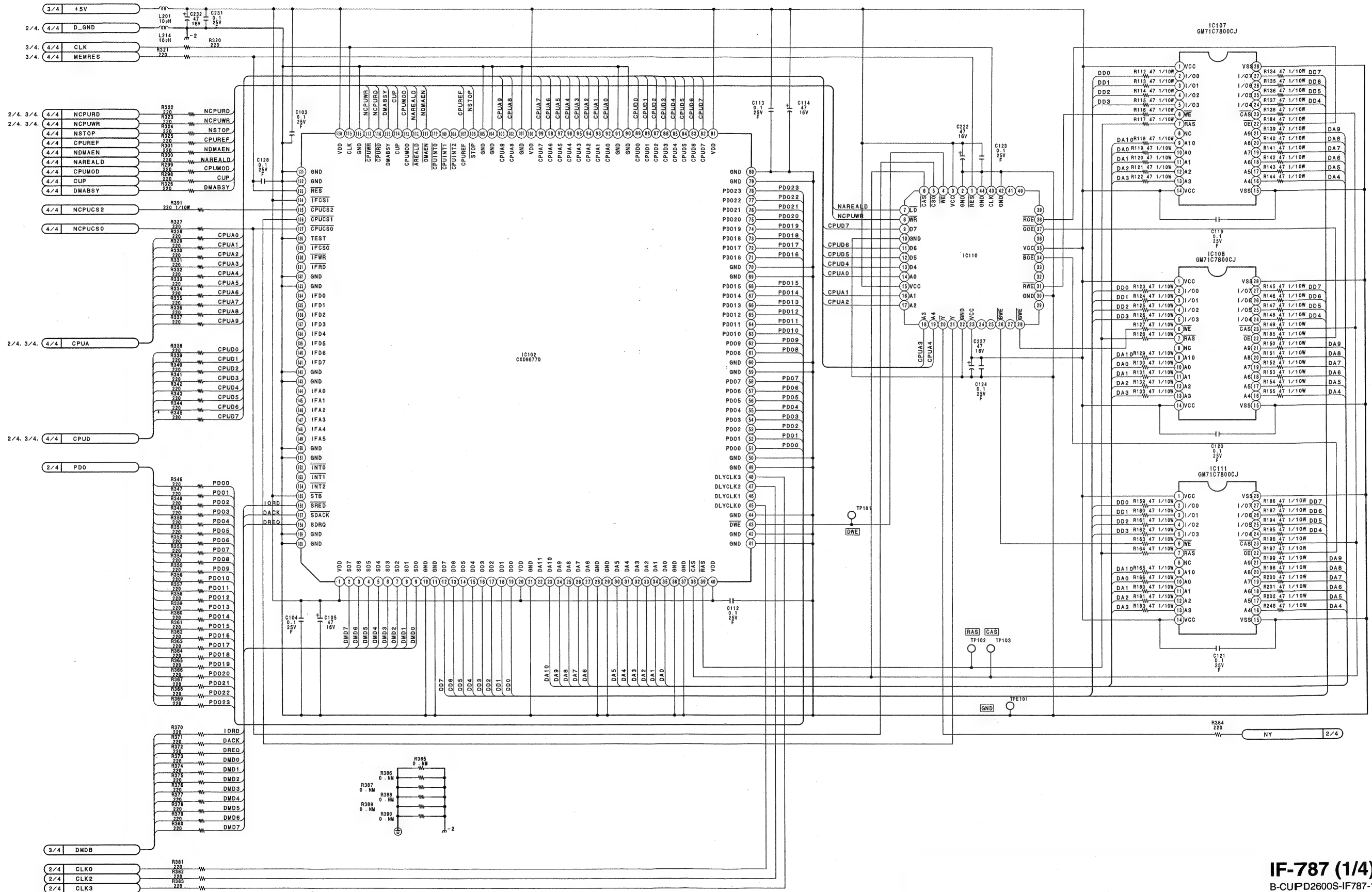




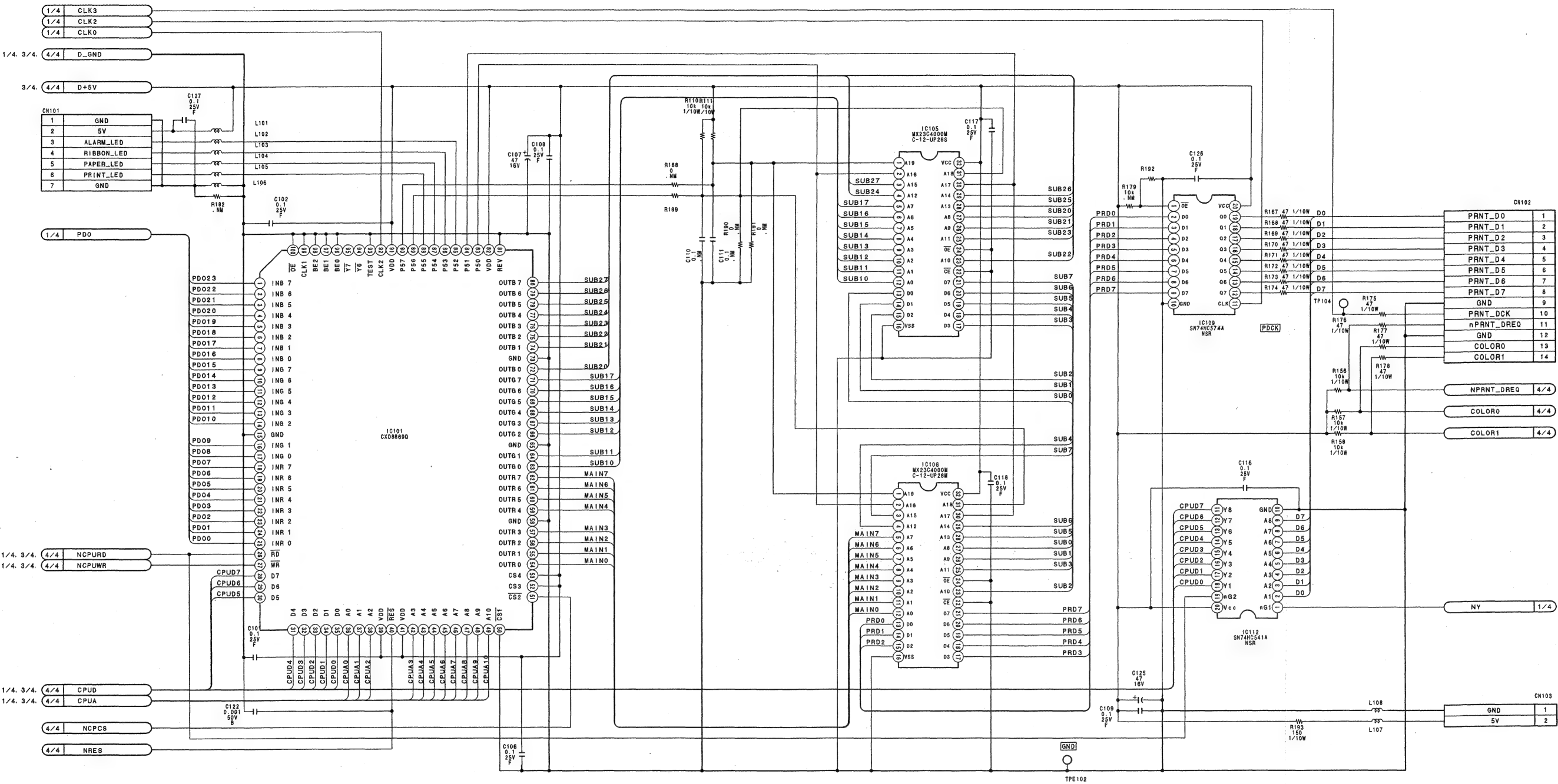


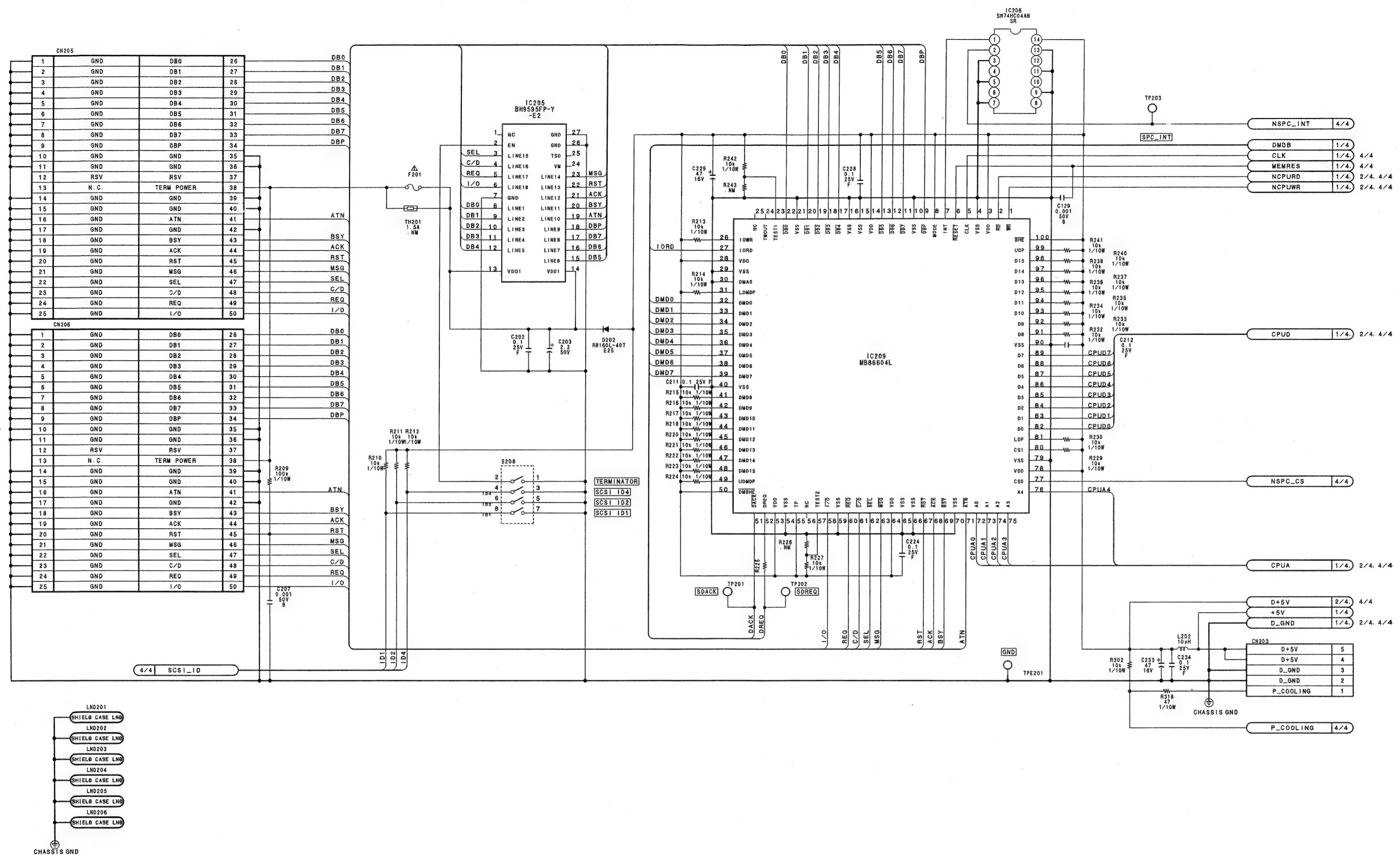


UP-D2600S

IF-787 (1/4)  
B-CUPD2600S-IF787-11

UP-D2600/V2

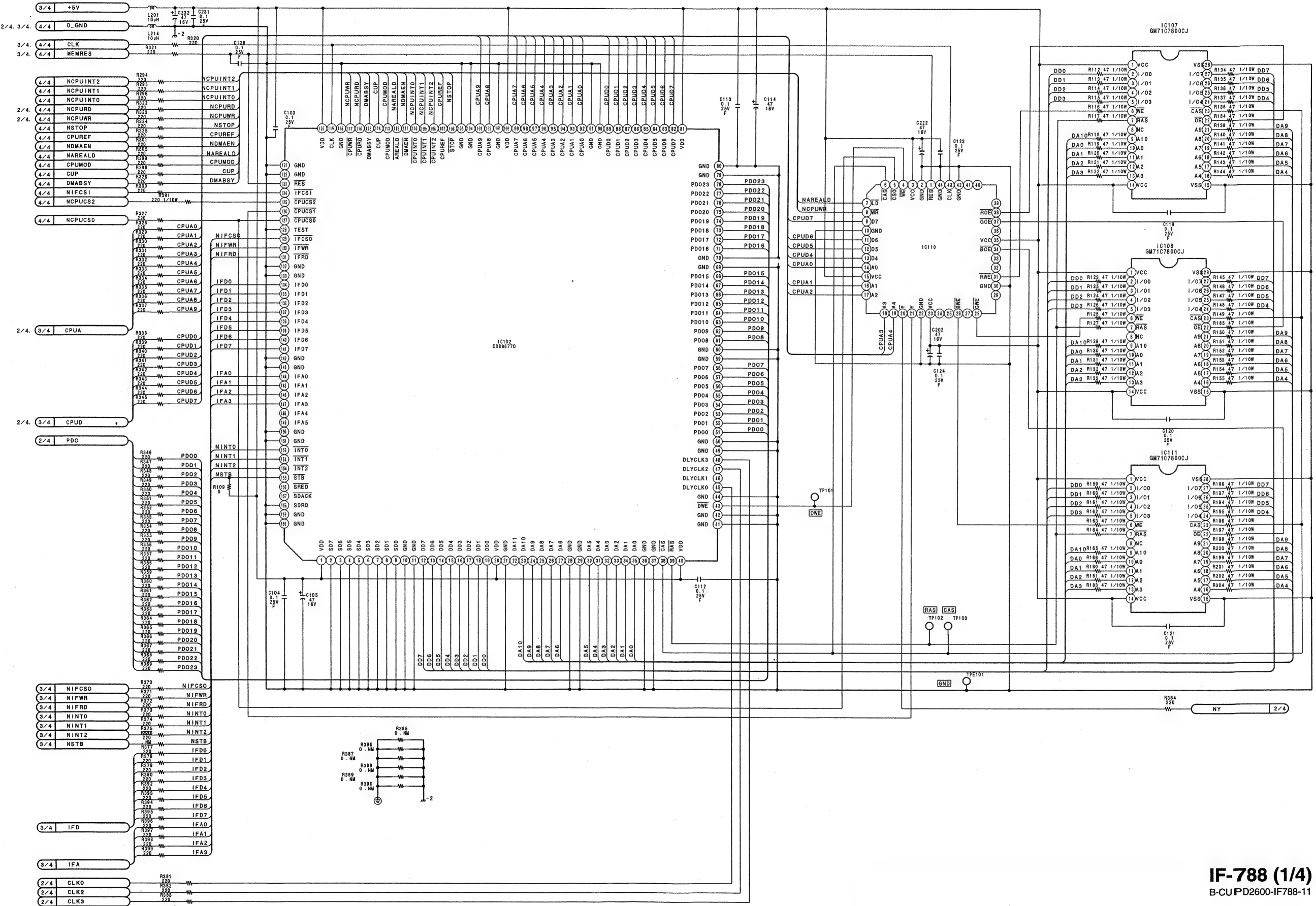






**IF-788 (1/4)**

**UP-D2600**



**IF-788 (1/4)**  
B-CUPD2600-IF788-11

UP-D2600/V2

**A**

**B**

**C**

10-10

10-10

## E

**F**

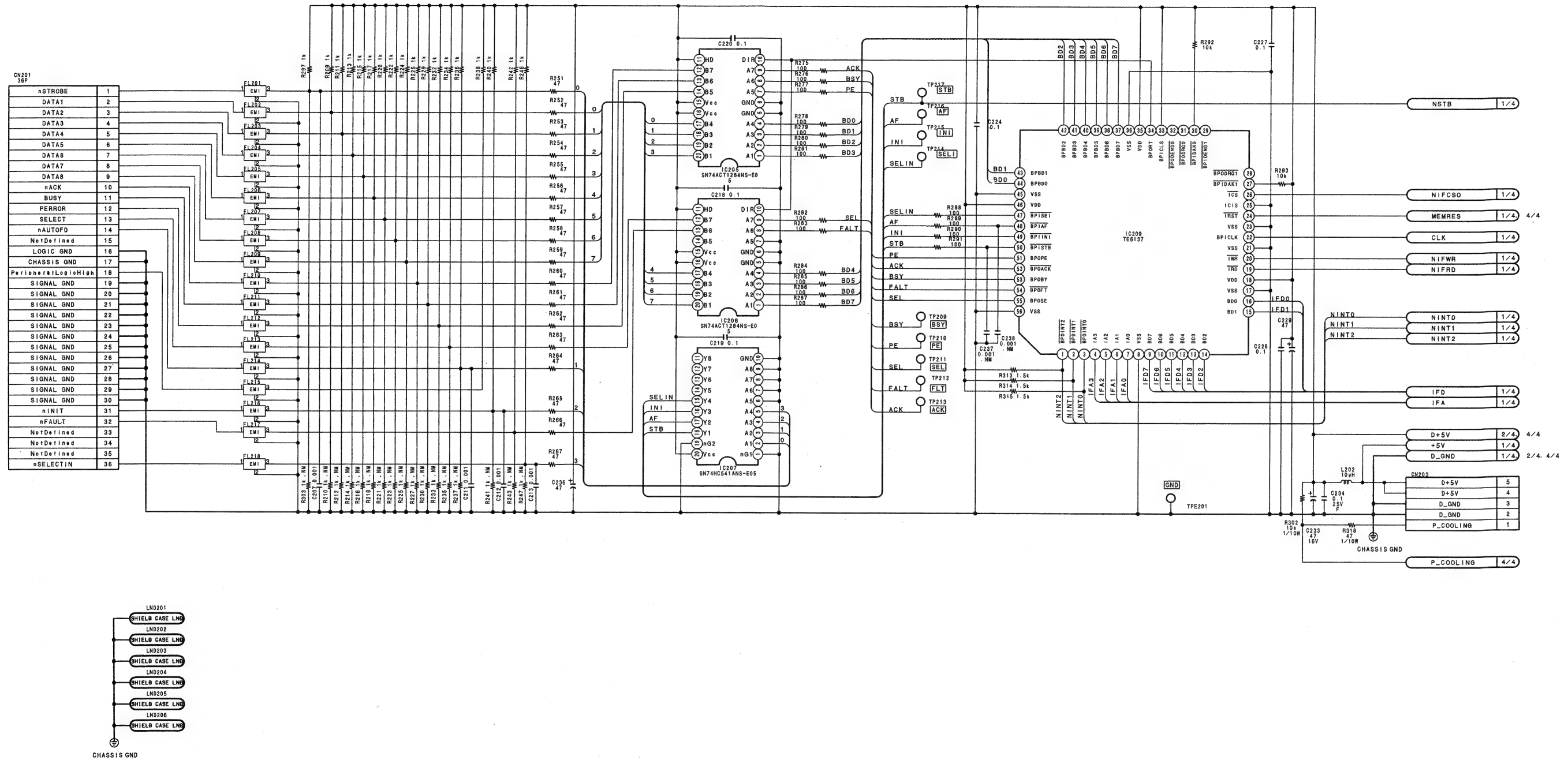
**G**

H



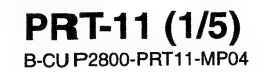


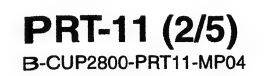
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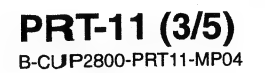


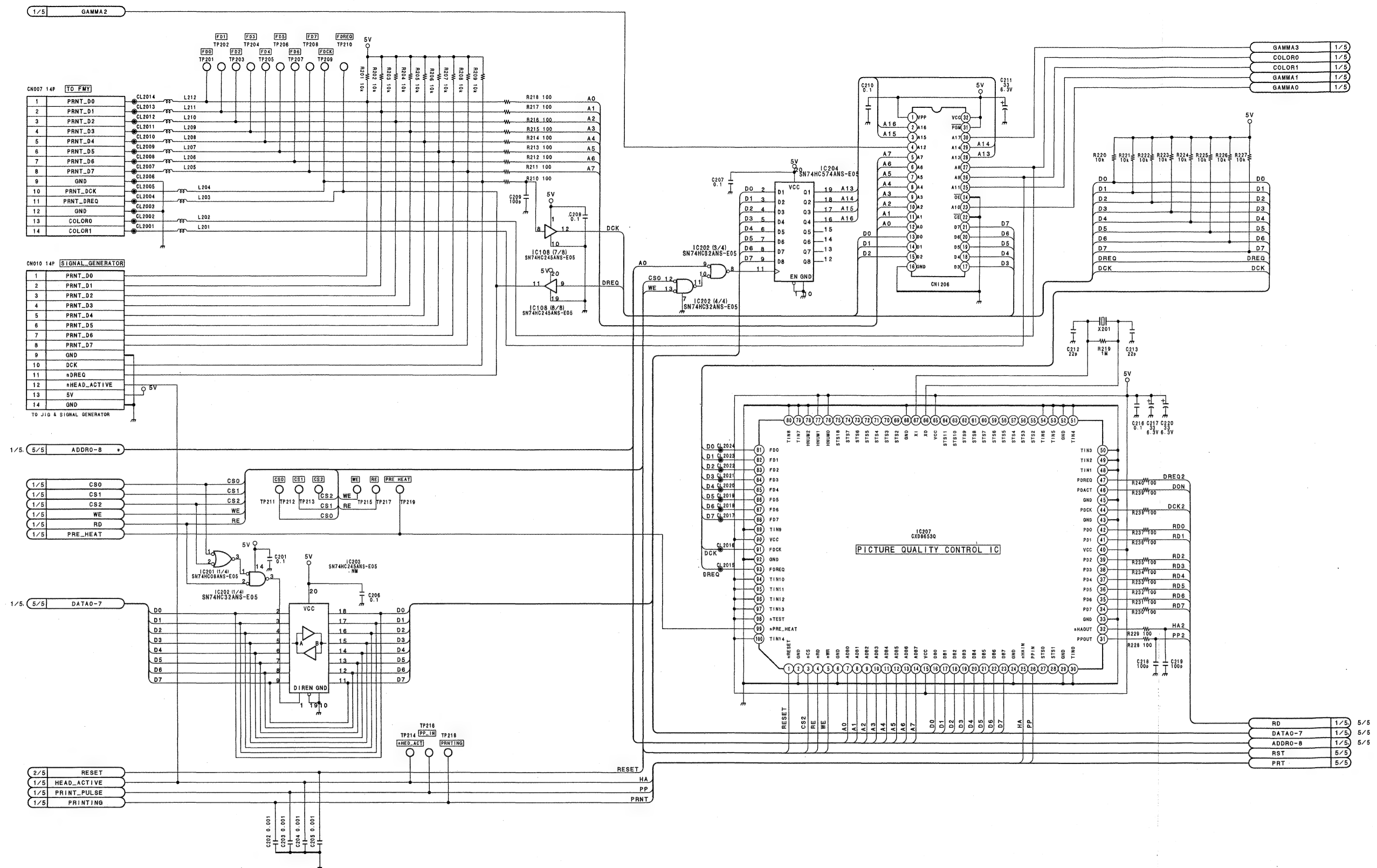


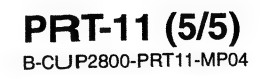






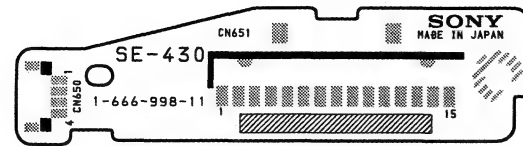




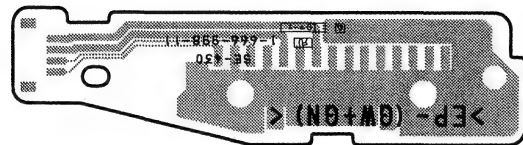




## 10-2. Board Layouts



**SE-430 -A SIDE-**  
SUFFIX: -11



**SE-430 -B SIDE-**  
SUFFIX: -11

LE-190 (1-667-130-12)

\*:B SIDE

C401 \*A2  
C402 \*A1

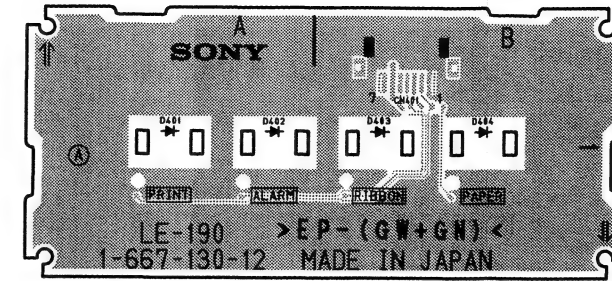
CL401 \*A2  
CL402 \*A2  
CL403 \*A2  
CL404 \*A2  
CL405 \*A2  
CL406 \*A2  
CL407 \*A1  
CL408 \*A1  
CL409 \*A2  
CL410 \*A2

CN401 A2

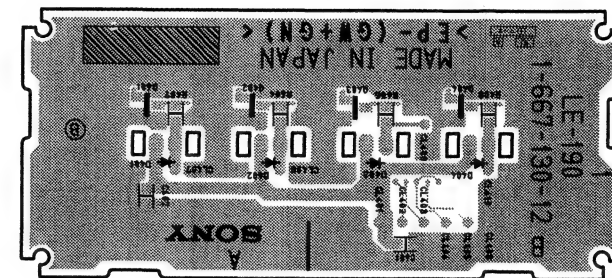
D401 A1  
D402 A1  
D403 A2  
D404 A2

Q401 \*A1  
Q402 \*A1  
Q403 \*A2  
Q404 \*A2

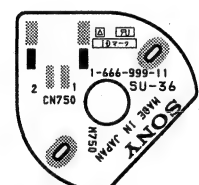
R402 \*A1  
R404 \*A1  
R406 \*A2  
R408 \*A2



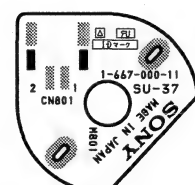
**LE-190 -A SIDE-**  
SUFFIX: -12



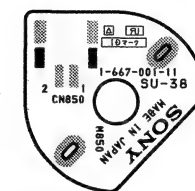
**LE-190 -B SIDE-**  
SUFFIX: -12



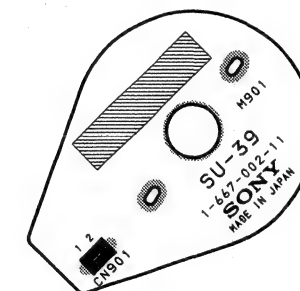
**SU-36 -A SIDE-**  
SUFFIX: -11



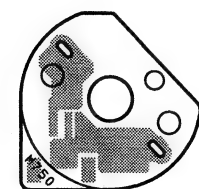
**SU-37 -A SIDE-**  
SUFFIX: -11



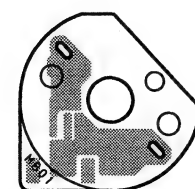
**SU-38 -A SIDE-**  
SUFFIX: -11



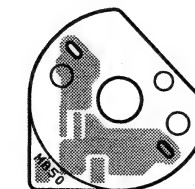
**SU-39 -A SIDE-**  
SUFFIX: -11



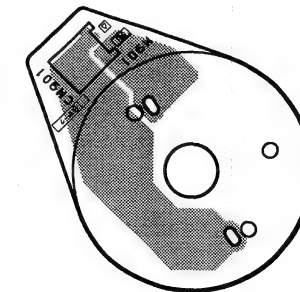
**SU-36 -B SIDE-**  
SUFFIX: -11



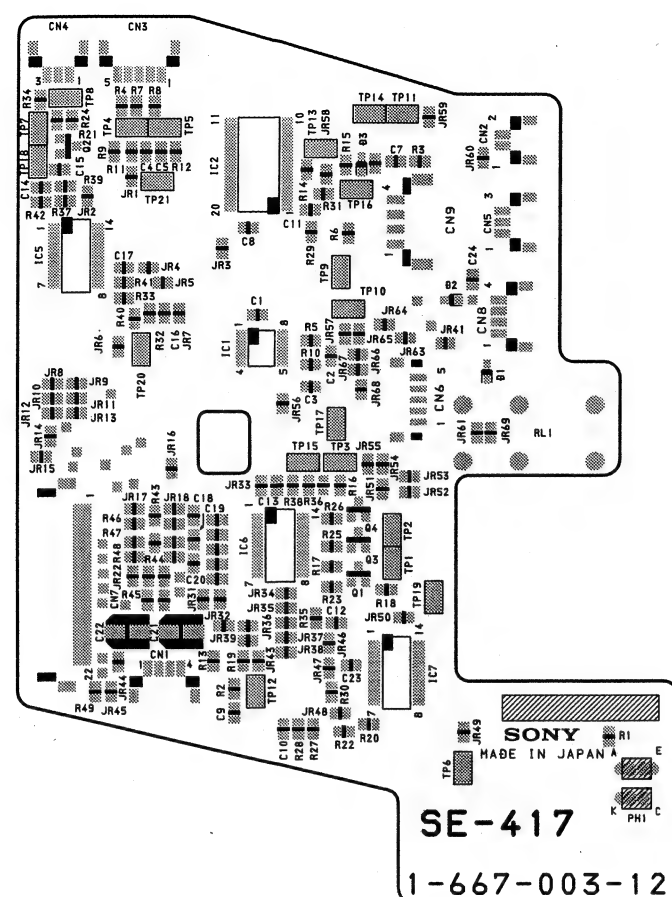
**SU-37 -B SIDE-**  
SUFFIX: -11



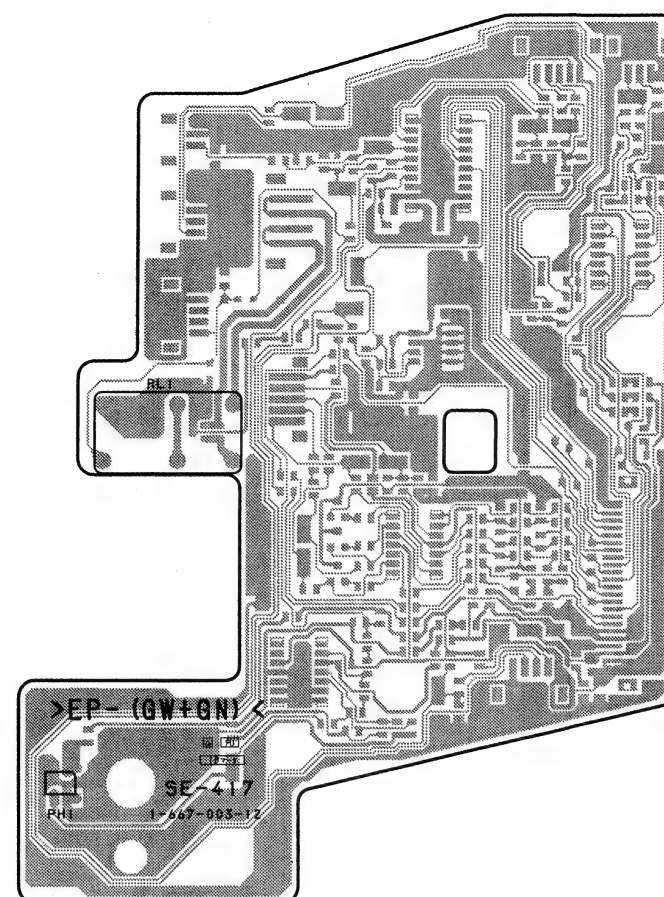
**SU-38 -B SIDE-**  
SUFFIX: -11



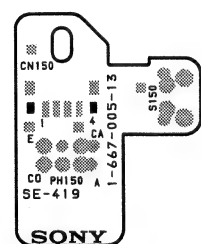
**SU-39 -B SIDE-**  
SUFFIX: -11



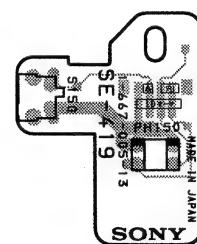
**SE-417 -A SIDE-**  
SUFFIX: -12



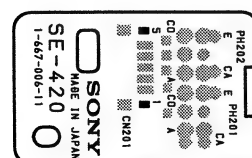
**SE-417 -B SIDE-**  
SUFFIX: -12



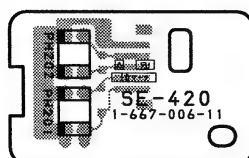
**SE-419 -A SIDE-**  
SUFFIX: -13



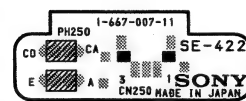
**SE-419 -B SIDE-**  
SUFFIX: -13



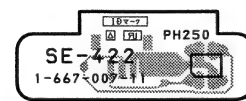
**SE-420 -A SIDE-**  
SUFFIX: -11



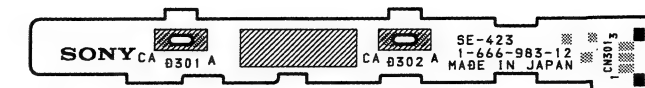
**SE-420 -B SIDE-**  
SUFFIX: -11



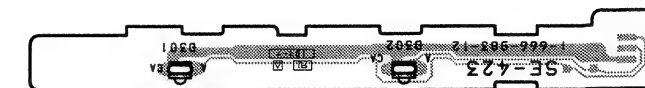
**SE-422 -A SIDE-**  
SUFFIX: -11



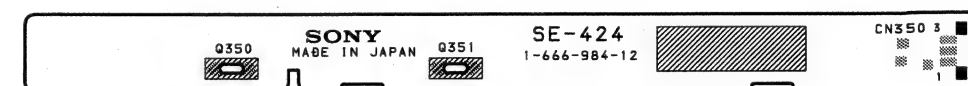
**SE-422 -B SIDE-**  
SUFFIX: -11



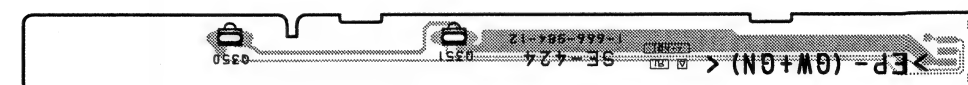
**SE-423 -A SIDE-**  
SUFFIX: -12



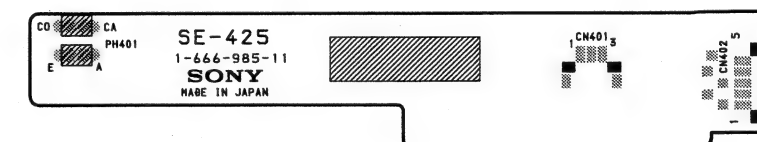
**SE-423 -B SIDE-**  
SUFFIX: -12



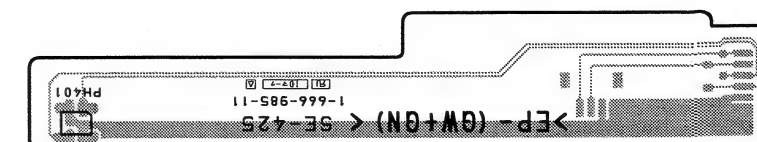
**SE-424 -A SIDE-**  
SUFFIX: -12



**SE-424 -B SIDE-**  
SUFFIX: -12

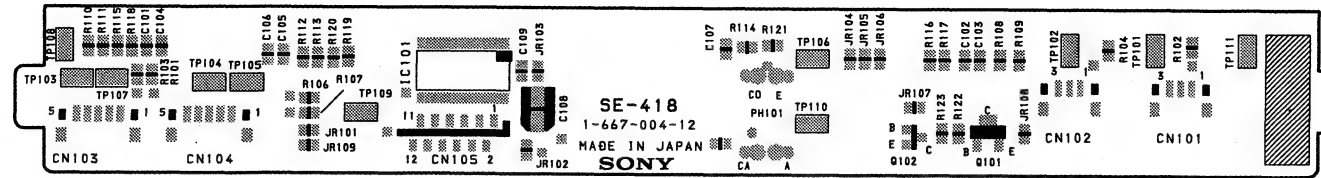


**SE-425 -A SIDE-**  
SUFFIX: -11

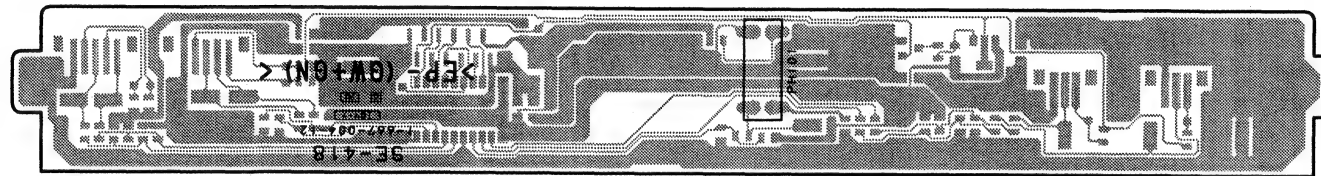


**SE-425 -B SIDE-**  
SUFFIX: -11





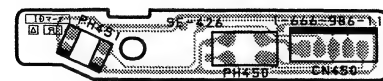
**SE-418** -A SIDE-SUFFIX: -12



**SE-418** -B SIDE-  
SUFFIX: -12



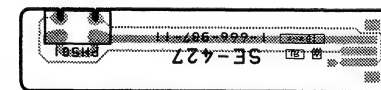
**SE-426** -A SIDE-SUFFIX: -11



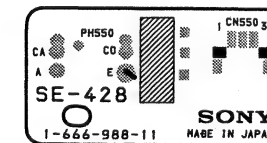
**SE-426** -B SIDE-  
SUFFIX: -11



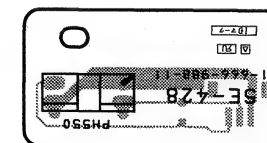
**SE-427** -A SIDE-SUFFIX: -11



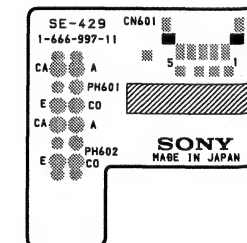
**SE-427** -B SIDE-  
SUFFIX: -11



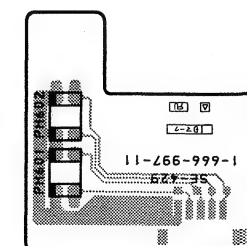
**SE-428** -A SIDE-SUFFIX: -11



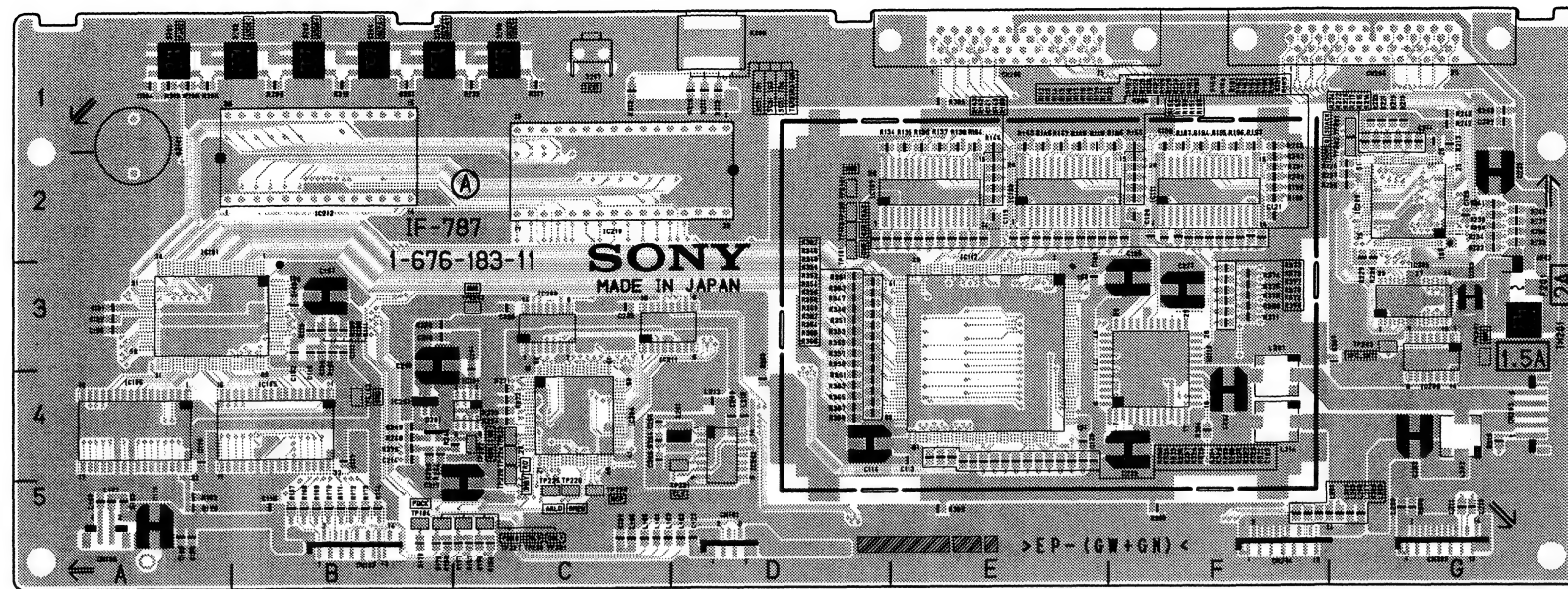
**SE-428** -B SIDE-  
SUFFIX: -11



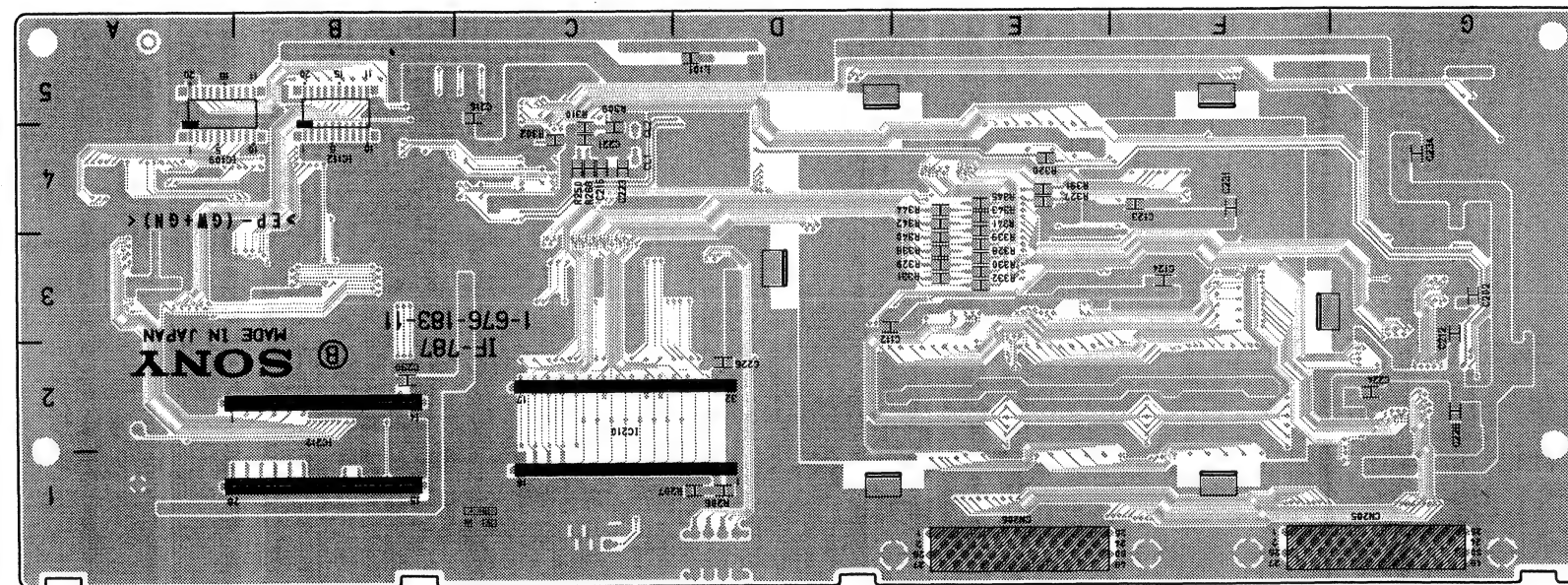
**SE-429** -A SIDE-SUFFIX: -11



**SE-429** -B SIDE-SUFFIX: -11



IF-787 -A SIDE-  
SUFFIX: -11



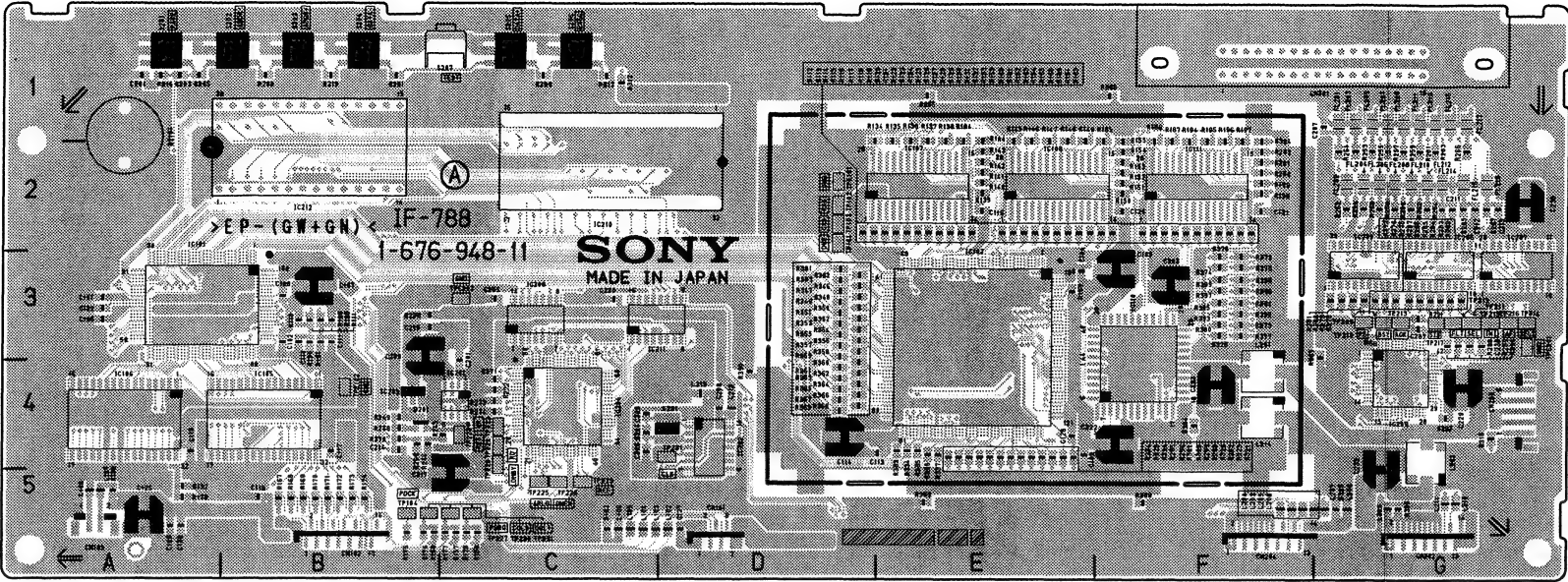
IF-787 -B SIDE-  
SUFFIX: -11

IF-787 (1-676-183-11):for UP-D2600S

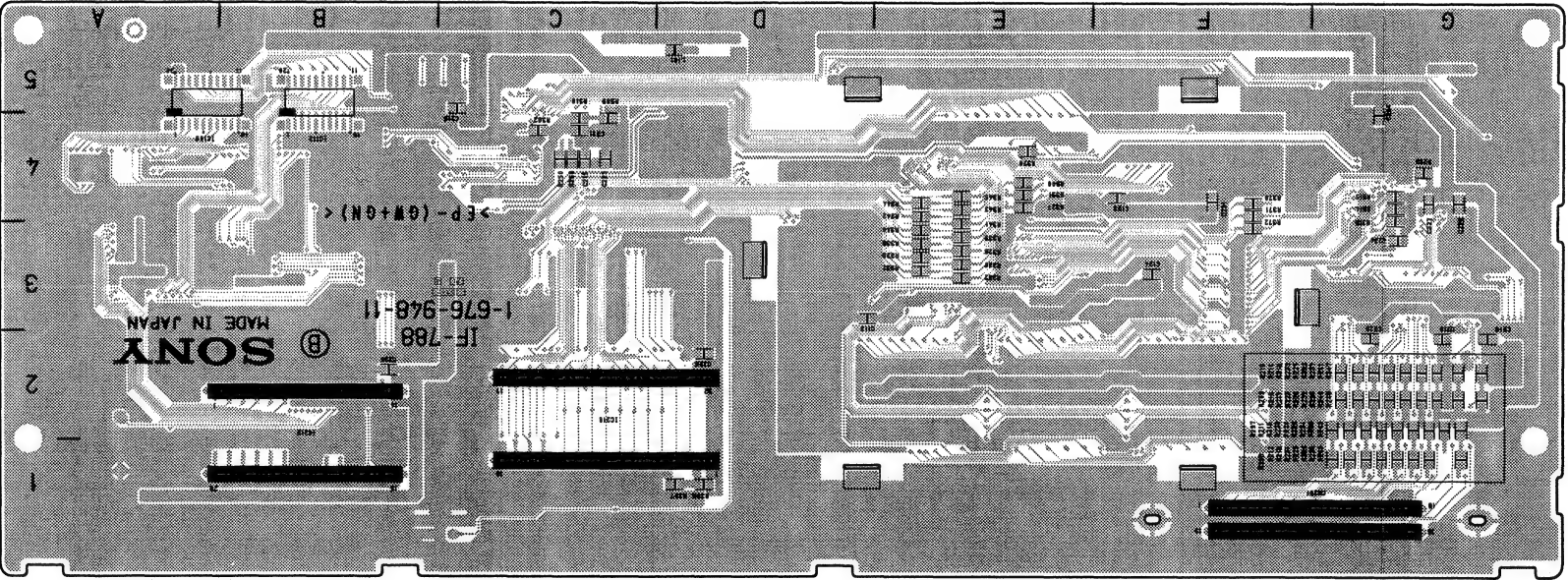
\*:B SIDE

BZ101	A2	IC202	D4	R159	F2	R250	*C4	R389	E5
C101	A3	IC203	B4	R160	F2	R268	*C4	R390	D4
C102	B3	IC204	C4	R161	F2	R269	*C4	R391	*E4
C103	E4	IC205	G3	R162	F2	R270	B4		
C104	E3	IC206	G3	R163	F2	R271	C4	S201	A1
C105	F3	IC208	C3	R164	F2	R272	C4	S202	B1
C106	A3	IC209	G2	R165	F2	R273	C4	S203	B1
C107	B3	IC210	D1	R166	F2	R274	C4	S204	B1
C108	B3	IC211	C3	R167	B5	R298	E4	S205	B1
C109	A5	IC212	A2	R168	B5	R299	E4	S206	C1
C110	B3			R169	B5	R300	E4	S207	C1
C111	B3	L101	*D5	R170	B5	R301	E4	S208	D1
C112	*D3	L102	D5	R171	B5	R302	*C4		
C113	E4	L103	C5	R172	B5	R306	G5	TH201	G3
C114	D4	L104	C5	R173	B5	R308	G5		
C116	B5	L105	C5	R174	B5	R309	*C4	TP101	D2
C117	B4	L106	C5	R175	B5	R310	*C4	TP102	D2
C118	A4	L107	A5	R176	B5	R312	C1	TP103	D2
C119	E2	L108	A5	R177	C5	R316	A1	TP104	B5
C120	F2	L201	F4	R178	C5	R317	C1	TP201	G1
C121	F2	L202	G4	R179	A5	R318	G4	TP202	G1
C122	A3	L203	F5	R180	F2	R320	*E4	TP203	G3
C123	*F4	L204	F5	R181	F2	R321	E4	TP221	D4
C124	*F3	L205	F5	R182	C5	R322	E4	TP222	C4
C125	A5	L206	F5	R183	F2	R323	E4	TP223	C4
C126	A5	L207	G5	R184	E1	R324	E4	TP224	C4
C127	D5	L208	G5	R185	F1	R325	E4	TP225	C5
C128	E4	L209	G5	R186	F1	R326	E4	TP226	C5
C129	G2	L210	G5	R187	F1	R327	*E4	TP227	B5
C201	C3	L211	G5	R188	B3	R328	*E3	TP228	C4
C202	*G3	L212	D4	R189	B3	R329	*E3	TP229	C5
C203	G3	L213	D4	R190	B3	R330	*E3	TP230	C5
C204	A1	L214	F4	R191	B3	R331	*E3	TP231	C5
C205	C4			R192	A5	R332	*E3		
C206	C4	LND201	*D1	R193	A5	R333	E4	TPE101	D2
C207	G1	LND202	*F1	R194	F1	R334	E4	TPE102	B4
C208	D4	LND203	*F5	R195	F1	R335	E4	TPE201	G3
C209	B3	LND204	*D5	R196	F1	R336	E4	TPE202	C3
C210	B3	LND205	*F3	R197	F1	R337	E4		
C211	G1	LND206	*D3	R198	F2	R338	*E3	X201	D4
C212	*G3			R199	F2	R339	*E3		
C213	B4	R110	B3	R200	F2	R340	*E3	ZU001	A5
C214	B4	R111	B3	R201	F2	R341	*E3		
C215	*C4	R112	D2	R202	F2	R342	*E4		
C216	*C5	R113	D2	R203	A1	R343	*E4		
C217	C5	R114	E2	R204	C4	R344	*E4		
C221	*C4	R115	E2	R205	A1	R345	*E4		
C222	F4	R116	E2	R206	*D1	R346	D3		
C223	*C4	R117	E2	R207	*D1	R347	D3		
C224	*G2	R118	E2	R208	B1	R348	D3		
C225	C3	R119	E2	R209	G1	R349	D3		
C226	*D2	R120	E2	R210	D1	R350	D3		
C227	F3	R121	E2	R211	D1	R351	D3		
C228	*G2	R122	E2	R212	D1	R352	D3		
C229	G2	R123	E2	R213	G1	R353	D3		
C230	*B1	R124	E2	R214	G1	R354	D3		
C231	*F4	R125	E2	R215	G1	R355	D3		
C232	F4	R126	E2	R216	G1	R356	D3		
C233	G4	R127	E2	R217	G1	R357	D3		
C234	*G4	R128	E2	R218	G1	R358	D3		
C235	C3	R129	E2	R219	B1	R359	D3		
		R130	E2	R220	G1	R360	D4		
CL001	*C4	R131	E2	R221	G1	R361	D4		
CL002	*C4	R132	F2	R222	G1	R362	D4		
		R133	F2	R223	G1	R363	D4		
CN101	D5	R134	D1	R224	G1	R364	D4		
CN102	B5	R135	E1	R225	G2	R365	D4		
CN103	A5	R136	E1	R226	G2	R366	D4		
CN202	G5	R137	E1	R227	G2	R367	D4		
CN203	G4	R138	E1	R228	B3	R368	D4		
CN204	F5	R139	E2	R229	G3	R369	D4		
CN205	F1	R140	E2	R230	G3	R370	F3		
CN206	E1	R141	E2	R231	B1	R371	F3		
		R142	E2	R232	G2	R372	F3		
D201	B4	R143	E2	R233	G2	R373	F3		
D202	G3	R144	E1	R234	G2	R374	F3		
		R145	E1	R235	G2	R375	F3		
F201	G3	R146	E1	R236	G2	R376	F3		
		R147	E1	R237	G2	R377	F3		
IC101	A3	R148	E1	R238	G2	R378	F3		
IC102	E3	R149	E1	R239	C1	R379	F3		
IC105	B4	R150	F2	R240	G2	R380	F3		
IC106	A4	R151	F2	R241	G2	R381	D3		
IC107	E2	R152	F2	R242	G1	R382	D3		
IC108	E2	R153	F2	R243	G1	R383	D3		
IC109	*A5	R154	F2	R244	B4	R384	F4		
IC110	F4	R155	F1	R245	C4	R385	E1		
IC111	F2	R156	B5	R246	F1	R386	F1		
IC112	*B5	R157	C5	R248	B4	R387	G3		
IC201	C4	R158	C5	R249	B4	R388	F5		





IF-788 -A SIDE-  
SUFFIX: -11



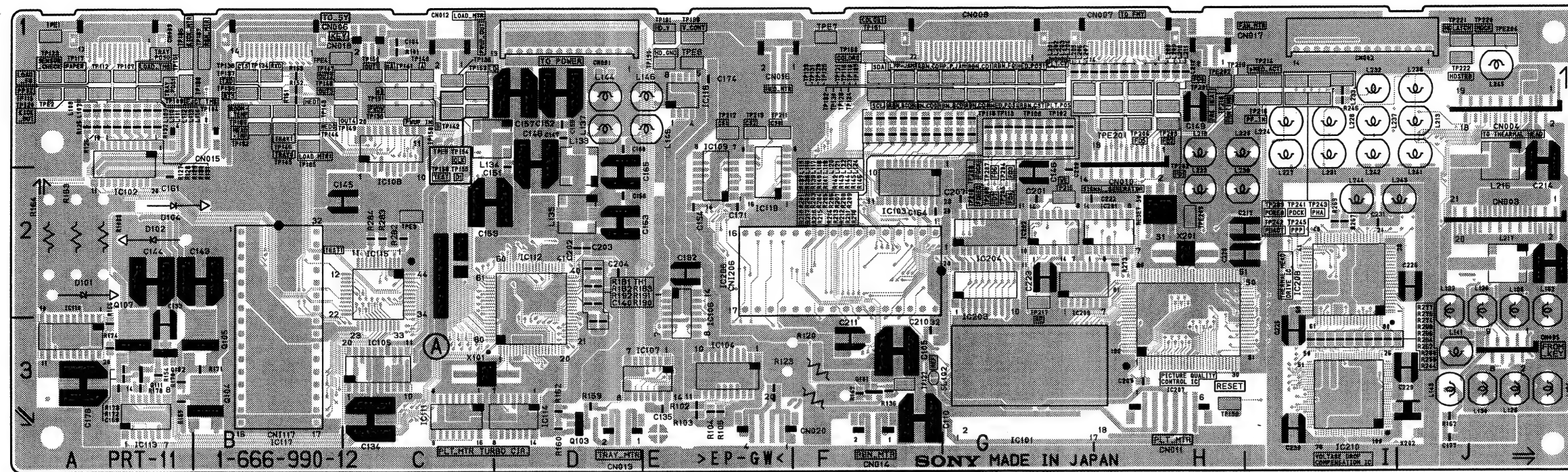
IF-788 -B SIDE-  
SUFFIX: -11

IF-788 (1-676-948-11): for UP-D2600

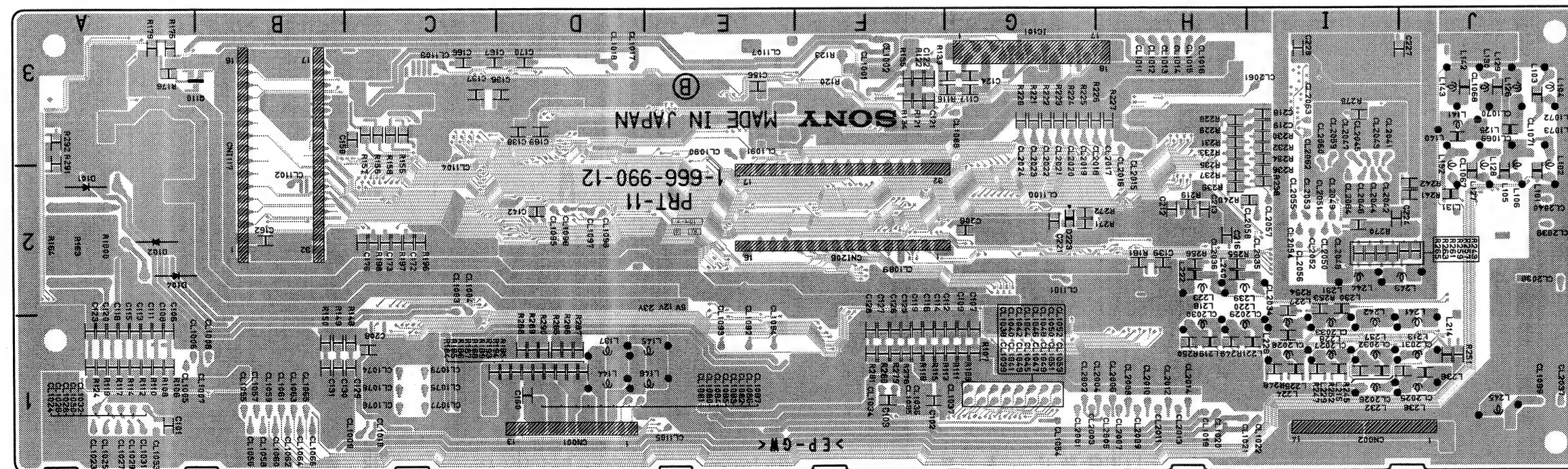
\*: B SIDE

BZ101	A2	FL214	G2	R140	E2	R230	*G1	R323	E4	TP209	G3
C101	A3	FL215	G1	R141	E2	R231	B1	R324	E4	TP210	G3
C102	B3	FL216	G2	R142	E2	R232	*G2	R325	E4	TP211	G3
C103	E4	FL217	G1	R143	E2	R233	*G2	R326	E4	TP212	G3
C104	E3	FL218	G2	R144	E1	R234	*G2	R327	*E4	TP213	G3
C105	F3	IC101	A3	R145	E1	R235	*G1	R328	*E3	TP214	G3
C106	A3	IC102	E3	R146	E1	R236	*G2	R329	*E3	TP215	G3
C107	B3	IC105	B4	R147	E1	R237	*G2	R330	*E3	TP216	G3
C108	B3	IC106	A4	R148	E1	R238	*G2	R331	*E3	TP217	G3
C109	A5	IC107	E2	R149	E1	R239	C1	R332	*E3	TP221	D4
C110	B3	IC108	E2	R150	F2	R240	*G2	R333	E4	TP222	C4
C111	B3	IC109	*A5	R151	F2	R241	*G2	R334	E4	TP223	C4
C112	*D3	IC110	F4	R152	F2	R242	*G2	R335	E4	TP224	C4
C113	E4	IC111	F2	R153	F2	R243	*G1	R336	E4	TP225	C5
C114	D4	IC112	*B5	R154	F2	R244	B4	R337	E4	TP226	C5
C116	B5	IC201	C4	R155	F1	R245	C4	R338	*E3	TP227	B5
C117	B4	IC202	D4	R156	B5	R246	*G2	R339	*E3	TP228	C4
C118	A4	IC203	B4	R157	C5	R247	*G2	R340	*E3	TP229	C5
C119	E2	IC204	C4	R158	C5	R248	B4	R341	*E3	TP230	C5
C120	F2	IC205	G3	R159	F2	R249	B4	R342	*E4	TP231	C5
C121	F2	IC206	G3	R160	F2	R250	*C4	R343	*E4		
C122	A3	IC207	G3	R161	F2	R251	G2	R344	*E4	TPE101	D2
C123	*F4	IC208	C3	R162	F2	R252	G2	R345	*E4	TPE102	B4
C124	*F3	IC209	G4	R163	F2	R253	G2	R346	D3	TPE201	G3
C125	A5	IC210	D1	R164	F2	R254	G2	R347	D3	TPE202	C3
C126	A5	IC211	C3	R165	F2	R255	G2	R348	D3		
C127	D5	IC212	A2	R166	F2	R256	G2	R349	D3	X201	D4
C128	E4			R167	B5	R257	G2	R350	D3		
C201	C4	L101	*D5	R168	B5	R258	G2	R351	D3	ZU001	A5
C202	F3	L102	D5	R169	B5	R259	G2	R352	D3		
C204	A1	L103	C5	R170	B5	R260	G2	R353	D3		
C205	C4	L104	C5	R171	B5	R261	G2	R354	D3		
C206	C4	L105	C5	R172	B5	R262	G2	R355	D3		
C207	G1	L106	C5	R173	B5	R263	G2	R356	D3		
C208	D4	L107	A5	R174	B5	R264	G2	R357	D3		
C209	B3	L108	A5	R175	B5	R265	G2	R358	D3		
C210	B3	L201	F4	R176	B5	R266	G2	R359	D3		
C211	G2	L202	G4	R177	C5	R267	G2	R360	D4		
C212	G2	L203	F5	R178	C5	R268	*C4	R361	D4		
C213	G2	L204	F5	R179	A5	R269	B4	R362	D4		
C214	B4	L205	F5	R180	F2	R270	B4	R363	D4		
C215	*C4	L206	F5	R181	F2	R271	C4	R364	D4		
C216	*C5	L207	G5	R182	C5	R272	C4	R365	D4		
C217	C5	L208	G5	R183	F2	R273	C4	R366	D4		
C218	*G2	L209	G5	R184	E1	R274	C4	R367	D4		
C219	*G2	L210	G5	R185	F1	R275	G3	R368	D4		
C220	*G2	L211	G5	R186	F1	R276	G3	R369	D4		
C221	*C4	L212	D4	R187	F1	R277	G3	R370	*F4		
C222	F4	L213	D4	R188	B3	R278	G3	R371	*F4		
C223	*C4	L214	F4	R189	B3	R279	G3	R372	*F3		
C224	*G3			R190	B3	R280	G3	R373	F3		
C225	C3	LND201	*D1	R191	B3	R281	G3	R374	F3		
C226	*D2	LND202	*F1	R192	A5	R282	G3	R375	F3		
C227	*G4	LND203	*F5	R193	A5	R283	G3	R376	F3		
C228	*G4	LND204	*D5	R194	F1	R284	G3	R377	F3		
C229	G4	LND205	*F3	R195	F1	R285	G3	R378	F3		
C230	*B2	LND206	*D3	R196	F1	R286	G3	R379	F3		
C231	*F4			R197	F1	R287	G3	R380	F3		
C232	F4	R109	E3	R198	F2	R288	G3	R381	D3		
C233	G4	R110	B3	R199	F2	R289	G3	R382	D3		
C234	*G4	R111	B3	R200	F2	R290	G3	R383	D3		
C235	C3	R112	D2	R201	F2	R291	G3	R384	F4		
C236	G2	R113	D2	R202	F2	R292	G4	R385	E1		
C237	G3	R114	E2	R203	A1	R293	*G4	R386	F1		
C238	G3	R115	E2	R204	C4	R294	E4	R387	G3		
		R116	E2	R205	A1	R295	E4	R388	F5		
		R117	E2	R206	*D1	R296	E4	R389	E5		
CN101	D5	R118	E2	R207	*D1	R297	*G2	R390	D4		
CN102	B5	R119	E2	R208	B1	R298	E4	R391	*E4		
CN103	A5	R120	E2	R209	*G2	R299	E4	R392	F3		
CN201	F1	R121	E2	R210	*G2	R300	*E4	R393	F3		
CN202	G5	R122	E2	R211	*G2	R301	E4	R394	F3		
CN203	G4	R123	E2	R212	*G1	R302	*C4	R395	F3		
CN204	F5	R124	E2	R213	*G2	R303	*G1	R396	F3		
		R125	E2	R214	*G2	R304	F1	R397	F3		
		R126	E2	R215	*G2	R305	E4	R398	F3		
		R127	E2	R216	*G1	R306	G5	R399	F3		
FL201	G1	R128	E2	R217	*G2	R308	G5				
FL202	G2	R129	E2	R218	*G2	R309	*C4	S201	A1		
FL203	G1	R130	E2	R219	B1	R310	*C4	S202	B1		
FL204	G2	R131	E2	R220	*G2	R311	C1	S203	B1		
FL205	G1	R132	F2	R221	*G1	R312	*G4	S204	B1		
FL206	G2	R133	F2	R222	*G2	R313	*G4	S205	C1		
FL207	G1	R134	D1	R223	*G2	R314	*G4	S206	C1		
FL208	G2	R135	E1	R224	*G2	R315	*G4	S207	C1		
FL209	G1	R136	E1	R225	*G1	R316	A1				
FL210	G2	R137	E1	R226	*G2	R317	C1				
FL211	G1	R138	E1	R227	*G2	R318	G4	TP101	D2		
FL212	G2	R139	E2	R228	B3	R319	*E4	TP102	D2		
FL213	G1			R229	*G2	R320	E4	TP103	D2		
						R321	E4	TP104	B5		
						R322	E4				





PRT-11 - A SIDE-  
SUFFIX: -12



PRT-11 - B SIDE-  
SUFFIX: -12

**SONY®**

---



SP01460

DIGITAL COLOR PRINTER

# **UP-D2600S**

# **UP-D2600**

---

## **SERVICE MANUAL**

Volume 1 1st Edition

---

## **⚠ 警告**

このマニュアルは、サービス専用です。

お客様が、このマニュアルに記載された設置や保守、点検、修理などを行うと感電や火災、人身事故につながる可能性があります。

危険をさけるため、サービストレーニングを受けた技術者のみご使用ください。

## **⚠ WARNING**

This manual is intended for qualified service personnel only.

To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

## **⚠ WARNUNG**

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.

Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegebenen Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

## **⚠ AVERTISSEMENT**

Ce manuel est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

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## Manual Structure

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### Purpose of this manual

This manual is the service manual Vol.1 of the Digital Color Printer UP-D2600S/D2600.

This manual is intended for use by trained system and service engineers, and describes the information for maintenance and detailed service.

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### Related manuals

Besides this Service Manual Vol.1, the following manual is available for the UP-D2600S/D2600.

- **Service Manual Vol.2**

Part No. 9-955-195-21 (for J, UC, CE)

Contains the semiconductor pin assignments, spare parts, block diagrams, schematic diagrams and board layouts.

- **“Semiconductor Pin Assignments” CD-ROM (Available on request)**

This “Semiconductor Pin Assignments” CD-ROM allows you to search for semiconductors used in B&P Company equipment.

Semiconductors that cannot be searched for on this CD-ROM are listed in the service manual for the corresponding unit. The service manual contains a complete list of all semiconductors and their ID Nos., and thus should be used together with the CD-ROM.

Part number: 9-968-546-XX

---

### Trademarks

A trademark and registered trademark used in this manual is follows.

Windows 98 and Windows 95 are registered trademarks of Microsoft Corporation.



## Section 1 Operating Instructions

This section is extracted  
from operation manual.

### 1-1. UP-D2600S (For UC)

3-968-154-11 (1)

**SONY.**

# Digital Color Printer

Instructions for Use Page 2

GB

CE

UP-D2600S

©1999 Sony Corporation

Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. \_\_\_\_\_  
Serial No. \_\_\_\_\_

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

THIS APPARATUS MUST BE EARTHED.

Symbol on the products



This symbol indicates the equipotential terminal which brings the various parts of a system to the same potential.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in the U.S.A.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment. This device requires shielded interface cables to comply with FCC emission limits.

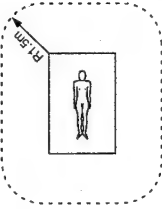
For the customers in Canada

This unit has been certified according to Standard CSA C22.2 No.601.1.

Important safeguards/notices for use in the medical environments

- 1. All the equipments connected to this unit shall be certified according to Standard IEC601-1, IEC950, IEC65 or other IEC/ISO Standards applicable to the equipments.
- 2. When this unit is used together with other equipment in the patient area\*, the equipment shall be either powered by an isolation transformer or connected via an additional protective earth terminal to system ground unless it is certified according to Standard IEC601-1.

\* Patient Area



- 3. The leakage current could increase when connected to other equipment.

- 4. This equipment generates, uses, and can radiate frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause interference to other equipment. If this unit causes interference (which can be determined by unplugging the power cord from the unit), try these measures:  
Relocate the unit with respect to the susceptible equipment. Plug this unit and the susceptible equipment into different branch circuit. Consult your dealer. (According to standard EN60601-1-2 and CISPR11, Class B, Group 1)

Caution

When you dispose of the unit or accessories, you must obey the law in the relative area or country and the regulation in the relative hospital.

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## About This Manual

This manual is divided into four chapters. This section explains the organization of this manual.

### Introduction

Describes the features and system configuration of the digital color printer. Notes the precautions to be observed when using the printer. Also provided is information on the location and function of parts.

### Preparation

Explains the steps involved in setting up the printer prior to getting started—checking the supplied accessories, assembly and connections.

### Operation

Describes loading of the ink ribbon cassette and print paper and actual printing operation.

### Others

Provides technical information on the printer, how to handle error occurrence, and how to deal with paper jams.

### Conventions used

#### Cross reference

Throughout this manual you will find the references to other sections of the manual that contain related information.

#### Important note

Be sure to read the sections of the manual marked **Note**. They explain points that you should be aware of to operate the printer correctly and prevent malfunctions.

#### Trademarks

Windows is the trademark of Microsoft Corporation, USA.  
Macintosh is the trademark of Apple Computer, Inc., USA.

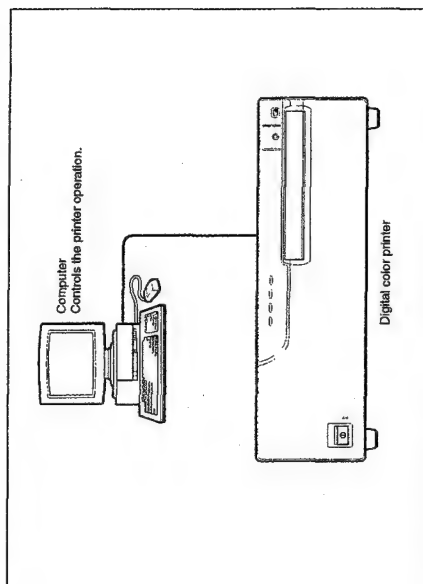
## System Overview

The Sony UP-D2600S digital color printer is designed to reproduce computer images on A6-size paper.

You can print out image data of Windows or Macintosh graphics application software in high resolution (310dpi) and 256 shades of gray or in full color (16,700,000 colors).

## System Configuration

The following shows an example printer system configuration.



### About the printer driver

The printer driver application program is stored in a file supplied with the CD-ROM. For detailed information on how to install it, refer to the ReadMe file on the CD-ROM.

## Precautions

### Safety

- Operate the printer using the power source specified in "Specifications" (page 23)
- Be careful not to damage the power cable by placing or dropping heavy objects on it; it is dangerous to use the unit with a damaged power cable.
- If you do not intend to use the unit for a long time, disconnect the power cable.
- Unplug the power cable by grasping the plug, not the cable itself.
- Do not disassemble the unit.
- Do not remove the cover. There is a danger of electric shock from the internal parts.
- Be careful not to spill water or other liquids on the unit, or to allow combustible or metallic material to enter the cabinet. If used with foreign matter in the cabinet, the unit is liable to fail, or present a risk of fire or electric shock.
- Ventilation holes are provided to prevent the unit from overheating. Be careful not to obstruct them with other units or by covering the unit with a cloth etc.
- If the unit malfunctions or if a foreign body falls into the cabinet, disconnect the power immediately and consult your Sony service facility or your Sony dealer.

### Installation

- Avoid placing the unit in a location subject to:
  - mechanical vibration
  - high humidity
  - excessive dust
  - direct or excessive sunlight
  - extremely high or low temperatures
- Do not use other electronic equipment near the unit. The unit will not work properly in strong electromagnetic fields.
- Do not place a heavy object such as a monitor on the printer.

### Condensation

- If the printer is subject to wide and sudden changes in temperature, such as when it is moved from a cold room to a warm room or when it is left in a room with a heater that tends to produce large amounts of moisture, condensation may form inside the printer. In such cases the printer will probably not work properly, and may even develop a fault if you persist in using it. If condensation forms, turn off the power and leave the printer to stand for at least one hour.
- If the printing pack is subjected to wide and sudden changes in temperature, condensation may form on the ink ribbon or paper. This will cause the printer to malfunction. Also, if the printing pack is used in this state, spots are likely to appear on the printout. Therefore, avoid storing the printing pack in locations subject to wide and sudden changes of temperature.
- To store a half-used printing pack, replace it in its original packing and reseal the package. If possible, keep the sealed printing pack in a cool, dark location. To subsequently use the printing pack, place it, in its sealed package, in a warm room for several hours. Doing so prevents condensation from forming when the printing pack is removed from its package.

### Location

To prevent internal heat built-up, leave enough room around the printer for air to circulate through the vents on the left hand side of the cabinet.

### On transportation

Do not transport the printer with the supplied accessories. Doing so may cause malfunction.

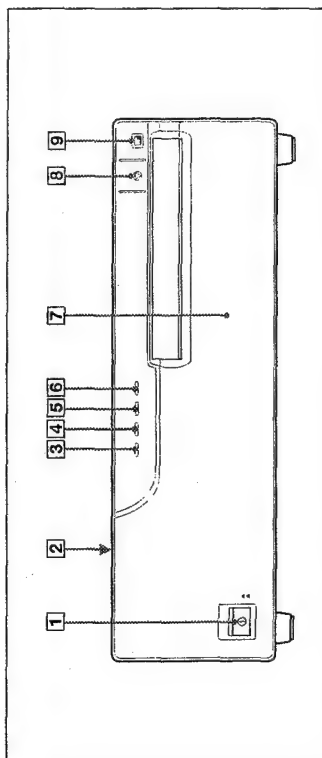
### Cleaning

Clean the cabinet, panel and controls with a soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which may damage the finish.

## Location and Function of Parts and Controls

For details, refer to the pages given in parentheses.

### Front



**1 POWER switch (20)**

Press to switch the unit on or off. The POWER lamp lights green when the power is on.

**2 Top cover**

Do not open this top cover. Only for service personnel.

**3 PRINT indicator (20, 25)**

Lights while printing.  
Blinks while the printer is receiving data.

**4 ALARM indicator (20, 25)**

Lights in case of paper jamming or occurrence of any other problem.

**5 RIBBON indicator (20, 25)**

Lights when a problem for ink ribbon cartridge occurs.

**6 PAPER indicator (20, 25)**

Lights when a problem for paper occurs.

The printer allows you to check the printer operating condition according to the lighting conditions of the PRINT indicator, ALARM indicator, PAPER indicator and RIBBON indicator.

For details, see "Indicators on the Front Panel" on page 25.

**7 Front panel**

Pull the top on the front door toward you to open it.  
Opening the front panel reveals the ink ribbon cartridge, paper tray and paper cover.

**a Ink ribbon cartridge (11, 15)**

Insert the ink ribbon cartridge.

**b Paper cover (11)**

Paper is ejected onto this cover.

**c Paper tray (11, 18)**

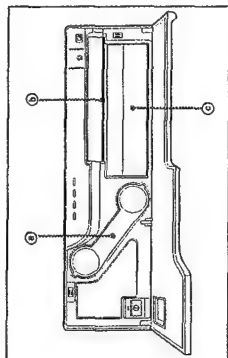
Load paper into this tray.

**8 STOP button (21)**

Press to stop printing midway.

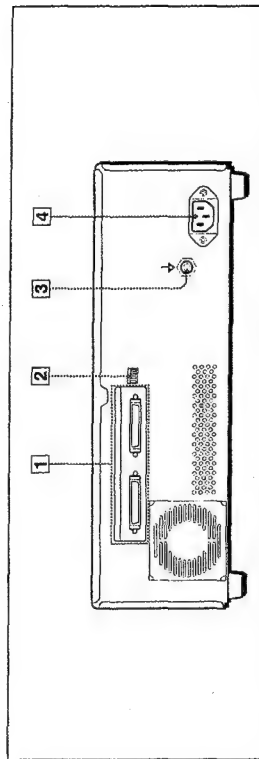
**9 PRINT button (20)**

Press to print the image stored in the memory of the printer again.



When the front panel is open

### Rear



**1 SCSI connector (Half pitch 50-pin) (13)**

Used to connect a computer, or another peripheral, through an SCSI cable. The other connector is loop-through connector for another SCSI device. If either of the two connectors is not being used, set the terminator of the DIP switch to ON.

(see "Setting the DIP Switch" on page 12)

**2 SCSI ID DIP switch (13)**

Used to set the SCSI ID number and the built-in terminator to ON or OFF.  
(see "Setting the DIP Switch" on page 12)

**3 Equipotential ground terminal**

Used to connect to the equipotential plug to bring the various parts of a system to the same potential.  
Refer to "Important safeguards/voices for use in the medical environment" on page 2.

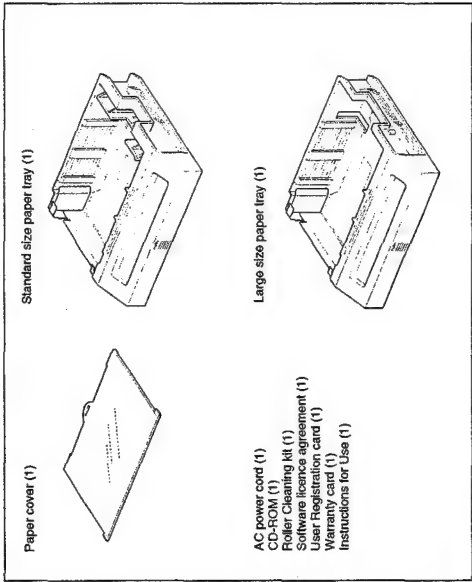
**4 ~AC IN connector (13)**

Used to connect the printer to a wall outlet with the supplied power cord.



Preparation  
**Supplied Accessories**

The printer is packed together with the following accessories. Check that nothing is missing from your package.

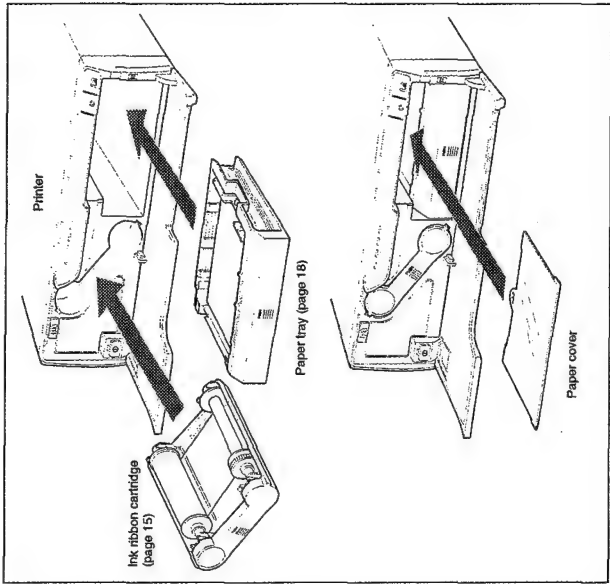


**Notes**

- Retain the original carton and packing materials in case you have to transport the unit in the future.
- Remove the ink ribbon cartridge and paper tray when transporting the printer.

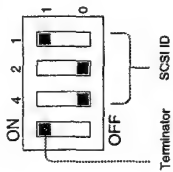
**Assembly**

Attach the supplied paper cover, paper tray and ink ribbon cartridge to the printer. For details of how to assemble them, see the pages given in parentheses.



## Setting the DIP Switch

The DIP switches on the rear panel determine the on/off state of the internal SCSI bus terminator and SCSI device ID number.



### Terminator ON/OFF setting

If the printer is located at the physical end of the SCSI bus, this switch should be set to ON. Otherwise, if another device is at the end of the bus, this switch should be OFF.

Switch	ON	OFF
Terminator	The internal terminator is ON. The internal terminator is OFF.	

### SCSI ID setting

The SCSI ID selection must be different from any other device on the bus. If two SCSI ID devices have the same ID, a malfunction will occur.

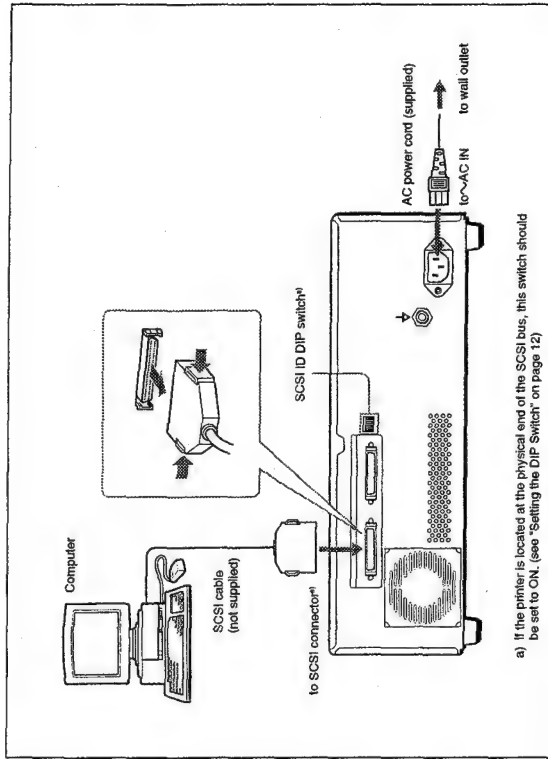
SCSI ID	SCSI ID switch
4	2 1
0	0 0 0
1	0 0 0 1
2	0 2 0
3	0 2 1
4	4 0 0
5	4 0 1
6	4 2 0
7	4 2 1

## Connecting the Computer

The UP-D2600S connects to the computer that supports the SCSI interface. Before connecting the computer, see "Important safeguards/notices for use in the medical environment" on page 2.

### Notes

- Turn off the power of each device before attempting to make any connections.
- Grab the connector at the end of the connecting cable, and firmly insert it into the socket.
- Before connecting the SCSI cable, make sure to turn off the power switches on your computer and any peripheral equipment.
- The total length of the SCSI cabling used with a single-host computer should be less than 6 meters.
- The length of the SCSI cabling used with a single-host computer should be less than 1 meters.



## Connecting the Computer (continued)

### Notes

- SCSI cable connection requirement can vary between different computers and peripherals. For the details of your installation, refer to the manual of your computer and peripherals.
- Be sure not to connect the external terminator to the SCSI connector when the terminator switch of the DJP switches is set to ON.

### Turning on the power

You should turn on all peripheral devices before turning on your computers. Particularly, make sure that all SCSI peripheral are turned on first.

### Operation

## Before Printing

This section describes the following operations that must be made prior to starting printing after mounting the paper tray and paper cover on the printer and making the necessary connections.

- Loading an ink ribbon cartridge (see the below)
- Loading paper (see page 18)

Once the above operations have been completed, there should be no need to repeat them during routine printing. Perform them only when absolutely necessary.

## Loading an Ink Ribbon Cartridge

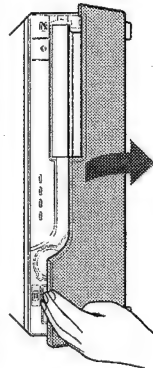
To make printouts, an ink ribbon cartridge and paper (which are compatible) must be loaded. (see "Ink Ribbon Cartridge and Paper" page 22)

Use the ink ribbon cartridge and print paper (supplied) to check if the printer functions properly.

### Notes

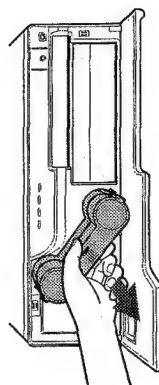
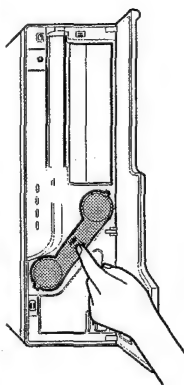
- Use only ink ribbon cartridge and paper that are designed for use with this printer. Failing to do so is likely to result in unsatisfactory printing or malfunctions.
- When you replace the ink ribbon cartridge while you are operating the printer, do not turn off the printer power. Turning off the power will cause the image stored in the memory to be lost.

- 1 Open the front panel by pulling the front panel top toward you.

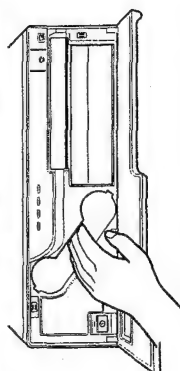


Continue to next page →

- 2** Remove the ink ribbon cartridge by pushing the ink ribbon cartridge itself. The ink ribbon cartridge pops out. When you use the printer first, this operation is not required.

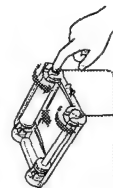


**Note**  
Never put your hand into the ink ribbon compartment. The thermal head becomes very hot. You may burn yourself if you touch it.



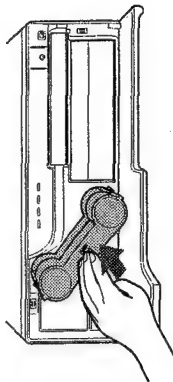
**When the ink ribbon cartridge cannot be ejected**  
Turn the power off, then back on again. Then, after a while, press the ink ribbon cartridge.

- 3** Remove any slack from the ink ribbon. If the ribbon is left slack, it may be damaged when inserted.

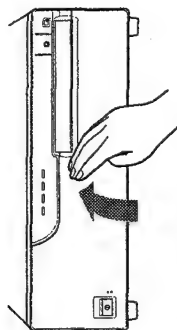


Wind the spool until the not-used point comes to the right end.

- 4** Insert the ink ribbon cartridge firmly until it stops.



- When the ink ribbon cartridge cannot be inserted**  
Turn the power off, then back on gain. Then, insert the ink ribbon holder.
- 5** Close the front panel.



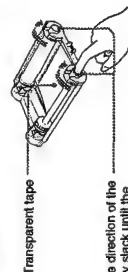
**Notes**  
**When using ink ribbon cartridge**

- Once an ink ribbon cartridge has been completely used, replace it. Ink ribbon cartridges are not reusable.
- Do not touch the ink ribbon cartridge or place it in a dusty location. Finger prints or dust on the ink ribbon will result in imperfect printing or malfunction of the head.

**When storing ink ribbon cartridge**

- Avoid placing the ink ribbon in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Store a partially used ink ribbon cartridge in its original packaging.

**If your ink ribbon should tear**  
Repair the tear with transparent tape. There should be no problem with using the remaining portion of the ribbon.



Turn the spool in the direction of the arrow to remove any slack until the transparent tape cannot be seen.

## Before Printing (continued)

### Loading the Paper

To load paper, follow the procedure below. Be careful not to touch the printing surface.

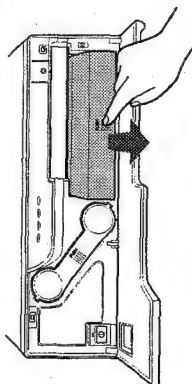
#### Notes

- Use only ink ribbon cartridge and paper that are designed for use with this printer. Failing to do so is likely to result in unsatisfactory printing or malfunctions.
- When you load paper while you are operating the printer, do not turn off the printer power. Turning off the power will cause the image stored in memory to be lost.

**1** Open the front panel by pulling the front panel top towards you.

**2** Push the part marked with **PUSH** on the paper tray.

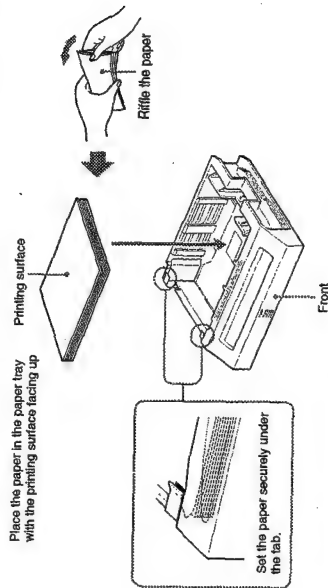
The paper tray pops out.  
When you use the printer first, this operation is not required.



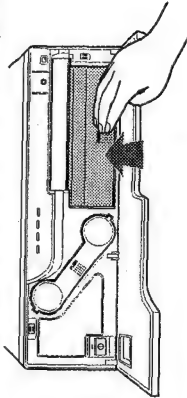
**3** Place the paper in the paper tray.

#### Notes

- The amount of paper that the paper tray holds depends on the paper in use. When adding paper to a partly full tray, be careful that the total number of sheets does not exceed the limit. If you exceed this limit, paper jams may occur.  
The limit is the amount of paper contained in one printing pack.  
For detailed information on the maximum amount of paper that the paper tray can hold, see "Ink Ribbon Cartridge and Paper" page 22.
- Do not place different types of paper in the tray. Doing so may cause paper jams to occur.
- Load the paper so that it lays flat in the paper tray. If the paper is curled, it will overflow from the paper tray and the printing position may shift. If this happens, load fewer sheets in the paper tray.
- Two types of paper trays are supplied with this printer to house different paper size.  
Use the proper tray which fits the print paper size.  
For details, see "Ink Ribbon Cartridge and Paper" on page 22.



**4** Slide the paper tray back into the printer until it clicks into place.



**5** Close the front panel.

#### Notes

##### When handling the paper

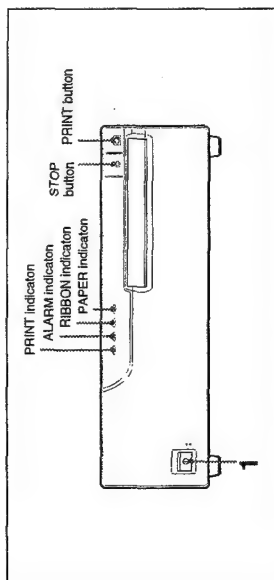
Do not touch the printing surface. Dust or finger prints are likely to cause unsatisfactory printing or malfunction of the head. Hold the paper by the printing surface protection sheet.

##### When storing print paper

- Avoid storing the print paper in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Use the original package for storing unused paper.

## Before printing

- Ensure that the printer is properly connected to the computer (page 13).
- Ensure that the correct ink ribbon cartridge and paper are used (page 22).
- Ensure that the ink ribbon cartridge and print paper are properly loaded (pages 15 and 18).



- 1 Turn on the power of the printer, then computer.  
All indicators, PRINT, ALARM, RIBBON and PAPER are lit, then all of them go out. Now the printer is in standby status.

## Notes

- When the printer is connected to the computer through SCSI interface bus, turn on the power of the printer before turning on the computer.
- Never turn the printer on or off while the computer is accessing its hard disk, floppy disk.

- 2 Turn on the power of the computer.

- 3 Send the image data from the computer to the printer, then send the print command.

While the printer is receiving the image data from the computer, the PRINT indicator blinks.

While the printer is printing, the PRINT indicator is lit.

## Notes

- Do not turn off the power during printing. If you do so, paper may not be ejected and may jam in the printer.
- Do not pull the paper out till the printer finishes printing.
- Do not leave the printouts more than 10 sheets on the paper cover. Doing so may cause jamming.

## To stop printing midway

Send the command or press the STOP button to stop printing.  
The printer returns to standby status.

## If the printer does not print

The printer will fail to print in the following cases when the ALARM, PAPER, and/or RIBBON indicator light.  
For details, see "Indicators on the Front Panel" page 25.

## When using the Self-laminating Color Printing Pack UPC-2040A

When the thermal head is cool, such as when making a first printout after switching on the printer, the printer preheats the head until it is sufficiently hot to start printing.

The print lamp blinks slowly during preheating. The printer automatically starts printing when the thermal head is sufficiently heated.

## Notes

When storing your printouts:

- Avoid storing the printout in a location subject to high temperatures, high humidity, excessive dust and direct sunlight.
- Do not stick tape on a printout. Also, avoid leaving a plastic eraser on a printout or placing a printout in contact with materials which contain plasticizer (under a desk mat, for example).
- Do not allow alcohol or other volatile organic solvents to come into contact with the printouts.

## Ink Ribbon Cartridge and Paper

Both paper and an ink ribbon cartridge are necessary for printing. Use the ink ribbon with the paper contained in the same package.

### About paper trays

Two types of paper trays are supplied with this printer to house two different paper sizes. Use the paper tray which fits the print paper size.

### Printing packs used with the standard size paper tray

#### Color printing pack UPC-2010

Contains color ink ribbon cartridge and paper.

#### Color ink ribbon cartridge 1 roll

A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

#### Self-adhesive color printing pack UPC-20S01

Contains an ink ribbon cartridge and paper for sticker.

#### Color ink ribbon cartridge 1 roll

A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

### 16-split self-adhesive pre-cut color printing pack UPC-20S16

Contains an ink ribbon cartridge and paper for sticker of 16 reduced images.

#### Color ink ribbon cartridge 1 roll

A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

### 4-split Self-adhesive pre-cut color printing pack UPC-20S04

Contains an ink ribbon cartridge and paper for sticker of 4 reduced images

#### Color ink ribbon cartridge 1 roll

A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

### B/W printing pack UPC-2020

Contains an ink ribbon cartridge and paper.

#### B & W ink ribbon cartridge 1 roll

A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

### Printing packs used with the large size paper tray

#### Self-laminating color printing pack UPC-2045

Contains an ink ribbon cartridge and paper for automatic laminate coating.  
Color ink ribbon cartridge 1 roll  
A-6 size paper 120 sheets

#### Self-laminating color printing pack UPC-2040A

Recommended to use the UPC-2040A for identification photographs.

Contains an ink ribbon cartridge and paper for automatic laminate coating.

#### Color ink ribbon cartridge 1 roll

A-6 size paper 120 sheets

#### Color postcard printing pack UPC-2070E

Contains an ink ribbon cartridge and paper for post cards.

#### Color ink ribbon cartridge 1 roll

A-6 size paper 150 sheets

### Notes

- Use only the ink ribbon cartridge and paper designed for use with this printer. If you use a different type, the printer may not print properly or malfunction.
- Use the ink ribbon with the paper contained in the same package. If the printer detects an incompatible combination, ALARM and RIBBON indicators are lit. Doing so may result in degradation of the print picture quality and occurrence of any trouble.
- Ink ribbon and paper are not reusable. Once exhausted, replace them with new ones.

## Specifications

Power requirements	Mode of operation:
120 V AC, 220 to 240 V AC, 50/60 Hz	Continuous
Power consumption	Supplied accessories
About 1.0 A max. at 25°C, 240 V AC	Standard size paper tray (1)
About 1.8 A max. at 25°C, 120 V AC	Large size paper tray (1)
Operating temperature	AC power cord (1)
5°C to 35°C (41°F to 95°F)	Paper cover (1)
Operating humidity	CD-ROM® (1)
20 % to 80 % (no condensation allowed)	Roller Cleaning Kit (1)
Storage and transport temperature	Software license agreement (1)
-20°C to 60°C (-4°F to 140°F)	User Registration card (1)
Storage and transport humidity	Warranty card (1)
20 % to 90 % (no condensation allowed)	Instructions For Use (1)
Dimensions	a) Contains data for the instruction manual for the printer driver
About 370 × 125 × 417 mm (w/h/d)	Optional accessories
(14 1/4 × 5 × 16 3/8 inches)	Color printing pack UPC-2010
Mass	Self-laminating color printing pack
About 9.5 kg (20 lb 15 oz)	UPC-2045
Printing system	Self-laminating color printing pack
Sublimation heat transfer printing	UPC-2040A
Picture Memory	Self-adhesive color printing pack
6 Mbytes	UPC-20S01
Picture element	16-split Self-adhesive Pre-cut color
Maximum 1365 × 1024 dots (310 dpi)	printing pack UPC-20S16
1646 × 1024 dots (for UPC-2045, UPC-2040A)	4-split Self-adhesive Pre-cut color
Thermal head	printing pack UPC-20S04
12.2 dots/mm (1024 dots)	Color Postcard printing pack
Total gradation	UPC-2070E
256 levels each for yellow, magenta, and cyan	B/W printing pack UPC-2020
Digital interface	UPA-2001 paper ejector
SCSI 1 channel	
Half-pitch 50-pin connector × 2	
Input: Max. 5 V DC	
Output: Max. 5 V DC	
Printing time	
For color printing (excluding the data transmission time):	
Approximately 50 seconds	
For Self-laminating color printing (excluding the data transmission time):	
UPC-2045: Approximately 70 seconds	
UPC-2040A: Approximately 100 seconds	
Protection against electric shock:	
Class I	
Protection against harmful ingress of water:	
Ordinary	
Degree of safety in the presence of flammable anesthetics or oxygen:	
Not suitable for use in the presence of flammable anesthetics or oxygen	

Design and specifications are subject to change without notice.



## Troubleshooting

The following troubleshooting check will help you correct the most common problems you may encounter with your unit. Before proceeding with these trouble checks, first check that the power cord is firmly connected. Should the problem persist, unplug the unit and contact your Sony service facility or your Sony dealer.

Symptom	Possible causes and remedies
The printer does not print even if the command is sent from the computer.	<ul style="list-style-type: none"> <li>• The POWER switch of the printer is not set to ON. → Set the POWER switch of the printer to ON.</li> <li>• Connection may not be correct. → Check connections and rectify, if necessary.</li> <li>• SCSI ID setting is not set correctly. → Check the SCSI ID setting. (page 12)</li> </ul>
The printer does not print.	<p>The problem is indicated by the indicators on the front panel.</p> <p>→ See "Indicators on the Front Panel" on page 25 and perform the proper remedies.</p>

### Indicators on the Front Panel

If a problem occurs, the indicators on the front panel such as PRINT, ALARM, RIBBON and/or PAPER light or blink to indicate the problem condition. The following table show the relation between lighting or blinking condition of each indicator and possible cause and remedies.

Indicators	Possible cause and remedies
Lighting	Blinking
PRINT	Printing
	PRINT Data receiving
	PRINT <sup>a)</sup> Adjusting the temperature of the thermal head so that the printer is ready to print.
PRINT	ALARM
	<ul style="list-style-type: none"> <li>• Printing stops midway. → The indicators stop lighting and blinking after the paper is ejected. → The paper which cannot be used, with this printer has been loaded. → Wait until the paper is ejected. Then, load the appropriate paper.</li> </ul>
RIBBON	<ul style="list-style-type: none"> <li>• The ribbon has been exhausted. → Replace the old ink ribbon cartridge with the new one. The ink ribbon cannot be reused. (page 15)</li> <li>• The ink ribbon cartridge is not loaded. → Load the ink ribbon cartridge. (page 15)</li> </ul>
PAPER	<ul style="list-style-type: none"> <li>• The paper has been exhausted. → Load the paper in the paper tray. (page 18)</li> <li>• The paper tray is not installed. → Install the paper tray.</li> </ul>
ALARM and PAPER	The ink ribbon cartridge and paper are not compatible. → Use a valid combination of paper and ink ribbon cartridge. (page 22)
ALARM and RIBBON	<ul style="list-style-type: none"> <li>• The ink ribbon cartridge is defective. → Replace the defective ink ribbon cartridge with the new one. (page 15)</li> <li>• The ink ribbon has torn. → Repair the tear. (page 17)</li> <li>• The ink ribbon cartridge that cannot be used with the printer. → Load the appropriate ink ribbon cartridge. (page 22)</li> </ul>
ALARM	The paper has jammed inside the printer. → Remove the jammed paper. (page 26)
PRINT, ALARM, PAPER and RIBBON	<ul style="list-style-type: none"> <li>• Serviceman-call trouble occurs. → Turn off the power immediately and contact your Sony service facility or your Sony dealer.</li> </ul>

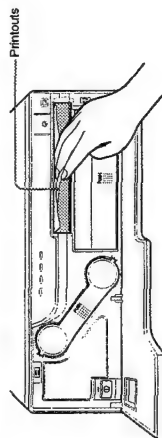
a) The indicator blinks slowly.

## Troubleshooting (continued)

### If the Paper Jams

If the paper jams after starting printing, the ALARM indicator lights. Follow the steps below to remove the jammed paper. When the jammed paper is removed, you do not need to continue operation explained below. Stop operation and reset removed paper cover, paper tray or ink ribbon holder if any.

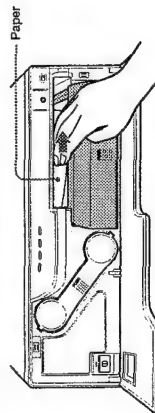
- 1 Open the front panel.
- 2 If any printouts have been ejected to the paper cover and have accumulated on the paper cover, remove them. If not go to the next step.



- 3 Turn off the power of the printer.
- 4 Remove the paper cover.  
When you can see paper inside the printer, go to step 5.  
When you cannot see paper, go to step 8.

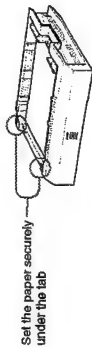
- 5 Slowly pull the paper into the paper tray.

**Note**  
Never attempt to pull a jammed paper down, up, backwards, or forwards, the paper may tangle or tear.  
If you cannot pull the paper, go to step 8.



- 6 Remove the paper tray.

- 7 Load the paper into the paper tray correctly.  
Do not reuse the paper put back in step 5. Discard that paper.



- 8 Remove the ink ribbon cartridge.  
If there is a jammed paper, slowly pull out the paper.  
**If the ink ribbon cartridge cannot be removed, the printer must not be operated. Contact your Sony service facility.**

- 9 Re-insert the removed paper tray, paper cover or ink ribbon cartridge if you removed, then close the front panel.

- 10 Turn on the power of the printer.  
When the ALARM indicator does not light, you can use the printer as normal.  
If the ALARM indicator lights again, the printer must not be operated. Turn off the power immediately and contact your Sony service facility.

#### Note

If a paper jam occurs, the paper roller in the printer may be dirty. It is recommended that you clean the paper roller once a month using the supplied Roller Cleaning kit to keep it clean.

Sony online <http://www.world.sony.com/>  
Printed on recycled paper Printed in Japan

Sony Corporation

**SONY.**

3-688-154-21 (1)

## 1-2. UP-D2600S (For CE)

# Digital Color Printer

Instructions for Use Page 2

GB

**CE**

**UP-D2600S**

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## Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. \_\_\_\_\_  
Serial No. \_\_\_\_\_

## WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

THIS APPARATUS MUST BE EARTHED.

### Symbol on the products



This symbol indicates the equipotential terminal which brings the various parts of a system to the same potential.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### For the customers in the U.S.A.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

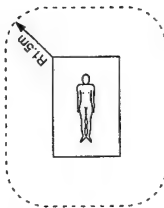
You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment. This device requires shielded interface cables to comply with FCC emission limits.

### For the customers in Europe

#### Important safeguards/notices for use in the medical environments

1. All the equipments connected to this unit shall be certified according to Standard IEC601-1, IEC950, IEC605 or other IEC/ISO Standards applicable to the equipments.
2. When this unit is used together with other equipment in the patient area\*, the equipment shall be either powered by an isolation transformer or connected via an additional protective earth terminal to system ground unless it is certified according to Standard IEC601-1.

\* Patient Area



3. The leakage current could increase when connected to other equipment.
4. This equipment generates, uses, and can radiate frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause interference to other equipment. If this unit causes interference (which can be determined by unplugging the power cord from the unit), try these measures:
  - Relocate the unit with respect to the susceptible equipment. Plug this unit and the susceptible equipment into different branch circuit. Consult your dealer. (According to standard EN60601-1-2 and CISPR11, Class B, Group 1)

#### Caution

When you dispose of the unit or accessories, you must obey the law in the relative area or country and the regulation in the relative hospital.

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## About This Manual

This manual is divided into four chapters. This section explains the organization of this manual.

### Introduction

Describes the features and system configuration of the digital color printer. Notes the precautions to be observed when using the printer. Also provided is information on the location and function of parts.

### Preparation

Explains the steps involved in setting up the printer prior to getting started—checking the supplied accessories, assembly and connections.

### Operation

Describes loading of the ink ribbon cassette and print paper and actual printing operation.

### Others

Provides technical information on the printer, how to handle error occurrence, and how to deal with paper jams.

## Conventions used

### Cross reference

Throughout this manual you will find the references to other sections of the manual that contain related information.

### Important note

Be sure to read the sections of the manual marked **Note**. They explain points that you should be aware of to operate the printer correctly and prevent malfunctions.

### Trademarks

Windows is the trademark of Microsoft Corporation, USA.  
Macintosh is the trademark of Apple Computer, Inc., USA.

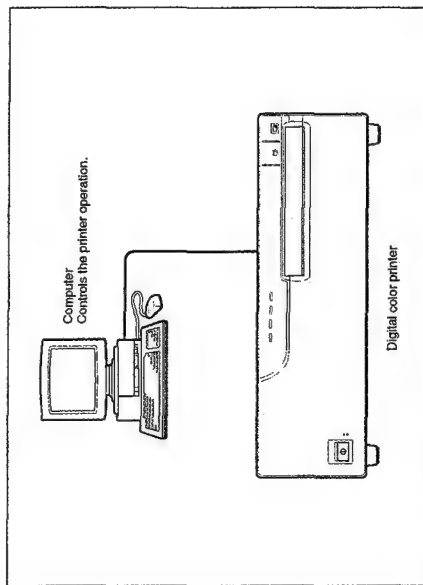
## System Overview

The Sony UP-D2600S digital color printer is designed to reproduce computer images on A6-size paper.

You can print out image data of Windows or Macintosh graphics application software in high resolution (310dpi) and 256 shades of gray or in full color (16,700,000 colors).

## System Configuration

The following shows an example printer system configuration.



### About the printer driver

The printer driver application program is stored in a file supplied with the CD-ROM. For detailed information on how to install it, refer to the ReadMe file on the CD-ROM.

## Precautions

### Safety

- Operate the printer using the power source specified in "Specifications" (page 23).
- Be careful not to damage the power cable by placing or dropping heavy objects on it; it is dangerous to use the unit with a damaged power cable.
- If you do not intend to use the unit for a long time, disconnect the power cable.
- Unplug the power cable by grasping the plug, not the cable itself.
- Do not disassemble the unit.
- Do not remove the cover. There is a danger of electric shock from the internal parts.
- Be careful not to spill water or other liquids on the unit, or to allow combustible or metallic material to enter the cabinet. If used with foreign matter in the cabinet, the unit is liable to fail, or present a risk of fire or electric shock.
- Ventilation holes are provided to prevent the unit from overheating. Be careful not to obstruct them with other units or by covering the unit with a cloth etc.
- If the unit malfunctions or if a foreign body falls into the cabinet, disconnect the power immediately and consult your Sony service facility or your Sony dealer.
- Do not open the top cover of the printer during printing because of mechanical hazard. If you do, turn off the power switch first.

### Installation

- Avoid placing the unit in a location subject to:
  - mechanical vibration
  - high humidity
  - excessive dust
  - direct or excessive sunlight
  - extremely high or low temperatures
- Do not use other electronic equipment near the unit. The unit will not work properly in strong electromagnetic fields.
- Do not place a heavy object such as a monitor on the printer.

### Condensation

- If the printer is subject to wide and sudden changes in temperature, such as when it is moved from a cold room to a warm room or when it is left in a room with a heater that tends to produce large amounts of moisture, condensation may form inside the printer. In such cases the printer will probably not work properly, and may even develop a fault if you persist in using it. If condensation forms, turn off the power and leave the printer to stand for at least one hour.
- If the printing pack is subjected to wide and sudden changes in temperature, condensation may form on the ink ribbon or paper. This will cause the printer to malfunction. Also, if the printing pack is used in this state, spots are likely to appear on the printout. Therefore, avoid storing the printing pack in locations subject to wide and sudden changes of temperature.
- To store a half-used printing pack, replace it in its original packing and reseal the package. If possible, keep the sealed printing pack in a cool, dark location. To subsequently use the printing pack, place it, in its sealed package, in a warm room for several hours. Doing so prevents condensation from forming when the printing pack is removed from its package.

### Location

To prevent internal heat build-up, leave enough room around the printer for air to circulate through the vents on the left hand side of the cabinet.

### On transportation

Do not transport the printer with the supplied accessories. Doing so may cause malfunction.

### Cleaning

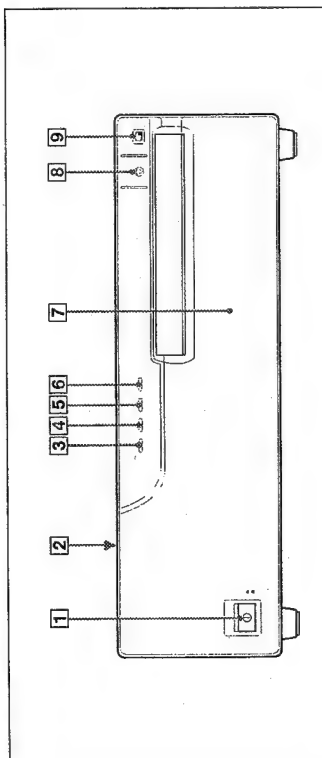
Clean the cabinet, panel and controls with a soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which may damage the finish.



## Location and Function of Parts and Controls

For details, refer to the pages given in parentheses.

### Front



**1 POWER switch (20)**

Press to switch the unit on or off. The POWER lamp lights green when the power is on.

**2 Top cover (27)**

Usually do not open this cover. Only in case the paper has jammed inside the top cover, open the top cover to remove a jammed paper. If you open the top cover, there is the other black cover inside. Open this black cover, too. Pay the following attention when opening the top cover.

Be sure to turn off the power of the printer before opening the top cover.  
If not, since the rubber roller is moving part, jewelry, loose cloth, hair and similar may be caught by the moving roller.

**3 PRINT indicator (20, 25)**

Lights while printing.  
Blinks while the printer is receiving data.

**4 ALARM indicator (20, 25)**

Lights in case of paper jamming or occurrence of any other problem.

**5 RIBBON indicator (20, 25)**

Lights when a problem for ink ribbon cartridge occurs.

**6 PAPER indicator (20, 25)**

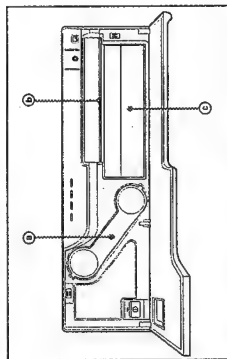
Lights when a problem for paper occurs.

The printer allows you to check the printer operating condition according to the lighting conditions of the PRINT indicator, ALARM indicator, PAPER indicator and RIBBON indicator.  
For details, see "Indicators on the Front Panel" on page 25.

**7 Front panel**

Pull the top on the front door toward you to open it.  
Opening the front panel reveals the ink ribbon cartridge, paper tray and paper cover.

When the front panel is open



**8 Ink ribbon cartridge (11, 15)**

Insert the ink ribbon cartridge.

**9 Paper cover (11)**

Paper is ejected onto this cover.

**10 Paper tray (11, 18)**

Load paper into this tray.

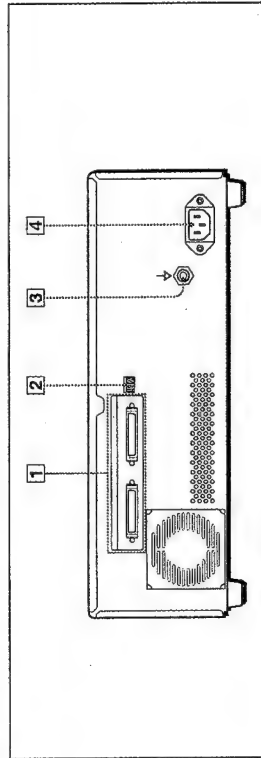
**11 STOP button (21)**

Press to stop printing midway.

**12 PRINT button (20)**

Press to print the image stored in the memory of the printer again.

### Rear



**1 SCSI connector (Half pitch 50-pin) (13)**

Used to connect a computer, or another peripheral, through an SCSI cable. The other connector is loop-through connector for another SCSI device. If either of the two connectors is not being used, set the terminator of the DIP switch to ON.  
(see "Setting the DIP Switch" on page 12)

**2 SCSI ID DIP switch (13)**

Used to set the SCSI ID number and the built-in terminator to ON or OFF.  
(see "Setting the DIP Switch" on page 12)

**3 Equipotential ground terminal**

Used to connect to the equipotential plug to bring the various parts of a system to the same potential.  
Refer to "Important safeguards/notices for use in the medical environment" on page 2.

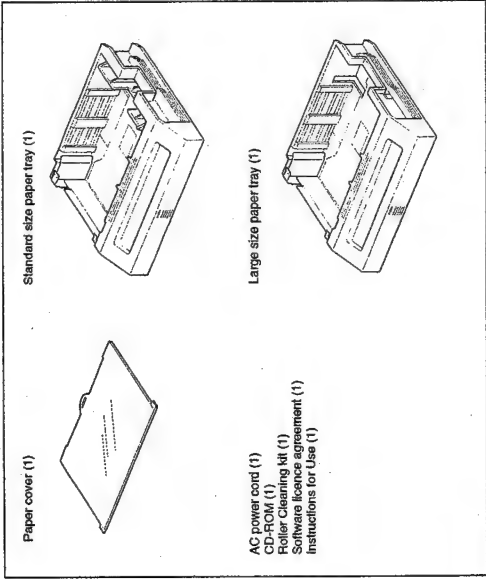
**4 ~AC IN connector (13)**

Used to connect the printer to a wall outlet with the supplied power cord.

Preparation

## Supplied Accessories

The printer is packed together with the following accessories. Check that nothing is missing from your package.

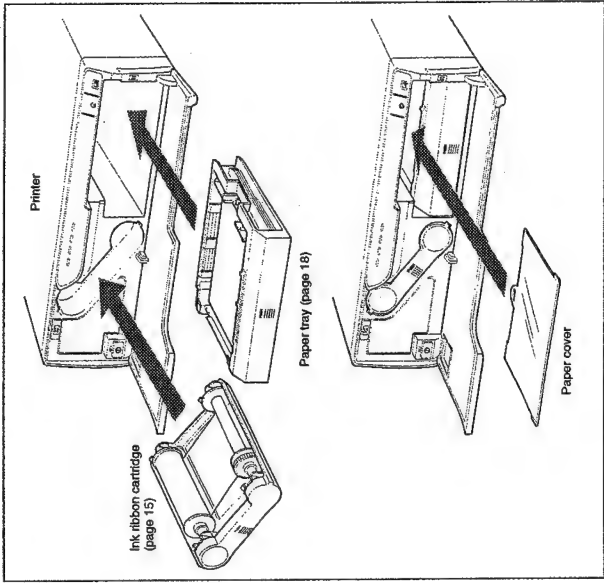


### NOTES

- Retain the original carton and packing materials in case you have to transport the unit in the future.
- Remove the ink ribbon cartridge and paper tray when transporting the printer.

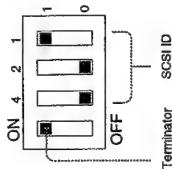
## Assembly

Attach the supplied paper cover, paper tray and ink ribbon cartridge to the printer. For details of how to assemble them, see the pages given in parentheses.



## Setting the DIP Switch

The DIP switches on the rear panel determine the on/off state of the internal SCSI bus terminator and SCSI device ID number.



### Terminator ON/OFF setting

If the printer is located at the physical end of the SCSI bus, this switch should be set to ON. Otherwise, if another device is at the end of the bus, this switch should be OFF.

Switch	ON	OFF
Terminator	The internal terminator is ON.	The internal terminator is OFF.

### SCSI ID setting

The SCSI ID selection must be different from any other device on the bus. If two SCSI ID devices have the same ID, a malfunction will occur.

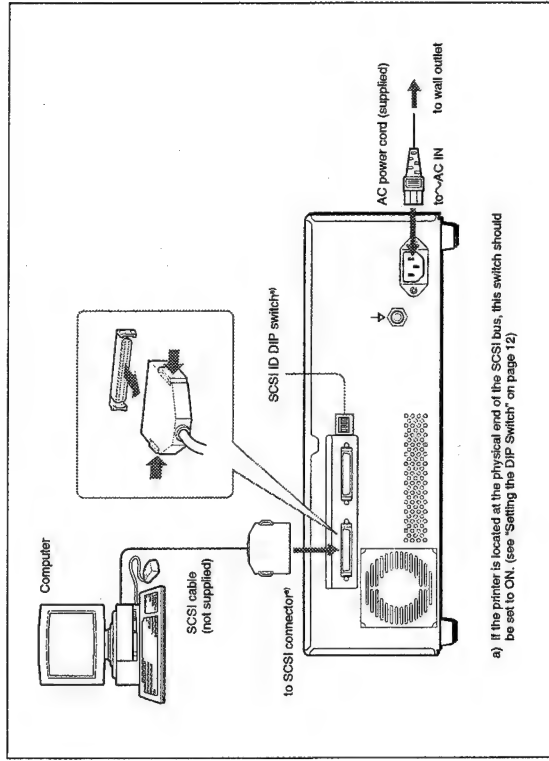
SCSI ID	SCSI ID switch
0	4 0 0 0 0
1	1 0 0 0 1
2	0 0 2 0 0
3	0 0 2 1 1
4	4 4 0 0 0
5	4 4 0 0 1
6	4 4 2 0 0
7	4 4 2 1 1

## Connecting the Computer

The UP-D2600S connects the computer that supports the SCSI interface. Before connecting the computer, see "Important safeguards/notices for use in the medical environment" on page 2.

### Notes

- Turn off the power of each device before attempting to make any connections.
- Grab the connector at the end of the connecting cable, and firmly insert it into the socket.
- Before connecting the SCSI cable, make sure to turn off the power switches on your computer and any peripheral equipment.
- The total length of the SCSI cabling used with a single-host computer should be less than 6 meters.
- The length of the SCSI cabling used with a single-host computer should be less than 1 meters.



## Connecting the Computer (continued)

### Notes

- SCSI cable connection requirement can vary between different computers and peripherals. For the details of your installation, refer to the manual of your computer and peripherals.
- Be sure not to connect the external terminator to the SCSI connector when the terminator switch of the DIP switches is set to ON.

### Turning on the power

You should turn on all peripheral devices before turning on your computers. Particularly, make sure that all SCSI peripheral are turned on first.

### Operation

## Before Printing

This section describes the following operations that must be made prior to starting printing after mounting the paper tray and paper cover on the printer and making the necessary connections.

- Loading an ink ribbon cartridge (see the below)
- Loading paper (see page 18)

Once the above operations have been completed, there should be no need to repeat them during routine printing. Perform them only when absolutely necessary.

## Loading an Ink Ribbon Cartridge

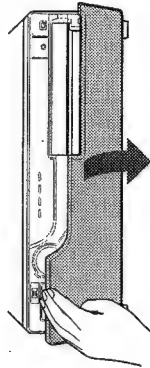
To make printouts, an ink ribbon cartridge and paper (which are compatible) must be loaded. (see "Ink Ribbon Cartridge and Paper" page 22)

Use the ink ribbon cartridge and print paper (supplied) to check if the printer functions properly.

### Notes

- Use only ink ribbon cartridge and paper that are designed for use with this printer. Failing to do so is likely to result in unsatisfactory printing or malfunctions.
- When you replace the ink ribbon cartridge while you are operating the printer, do not turn off the printer power. Turning off the power will cause the image stored in the memory to be lost.

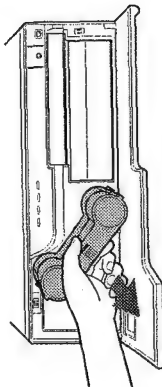
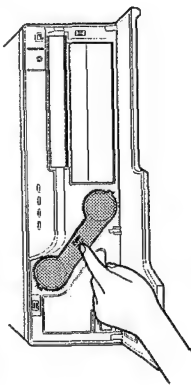
- 1 Open the front panel by pulling the front panel top toward you.



Continue to next page →

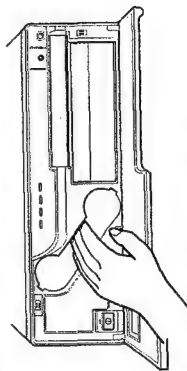
## Before Printing (continued)

- 2** Remove the ink ribbon cartridge by pushing the ink ribbon cartridge itself. The ink ribbon cartridge pops out. When you use the printer first, this operation is not required.



### Note

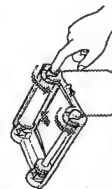
Never put your hand into the ink ribbon compartment. The thermal head becomes very hot. You may burn yourself if you touch it.



### When the ink ribbon cartridge cannot be ejected

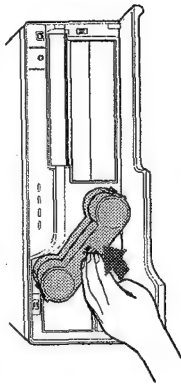
Turn the power off, then back on again. Then, after a while, press the ink ribbon cartridge.

- 3** Remove any slack from the ink ribbon. If the ribbon is left slack, it may be damaged when inserted.



Wind the spool until the not-used point comes to the right end.

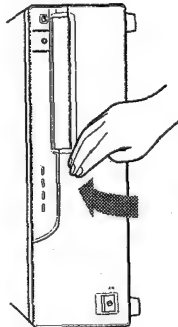
- 4** Insert the ink ribbon cartridge firmly until it stops.



### When the ink ribbon cartridge cannot be inserted

Turn the power off, then back on gain. Then, insert the ink ribbon holder.

- 5** Close the front panel.



### Notes

#### When using ink ribbon cartridge

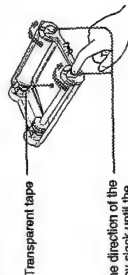
- Once an ink ribbon cartridge has been completely used, replace it. Ink ribbon cartridges are not reusable.
- Do not touch the ink ribbon cartridge or place it in a dusty location. Finger prints or dust on the ink ribbon will result in imperfect printing or malfunction of the head.

#### When storing ink ribbon cartridge

- Avoid placing the ink ribbon in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Store a partially used ink ribbon cartridge in its original packaging.

#### If your ink ribbon should tear

Repair the tear with transparent tape. There should be no problem with using the remaining portion of the ribbon.



Turn the spool in the direction of the arrow to remove any slack until the transparent tape cannot be seen.

## Before Printing (continued)

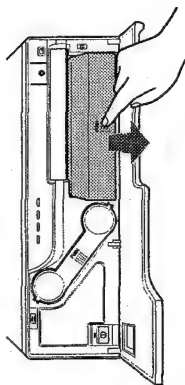
### Loading the Paper

To load paper, follow the procedure below. Be careful not to touch the printing surface.

#### Notes

- Use only ink ribbon cartridge and paper that are designed for use with this printer. Failing to do so is likely to result in unsatisfactory printing or malfunctions.
- When you load paper while you are operating the printer, do not turn off the printer power. Turning off the power will cause the image stored in memory to be lost.

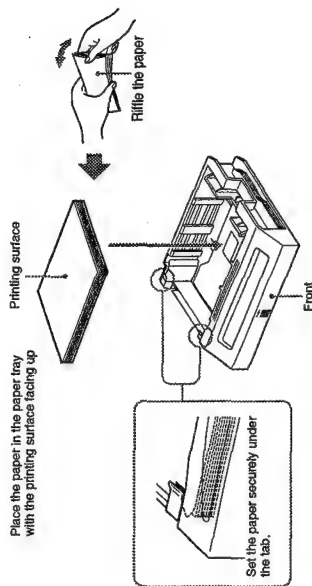
- 1 Open the front panel by pulling the front panel top towards you.
- 2 Push the part marked with **PUSH** on the paper tray. The paper tray pops out.



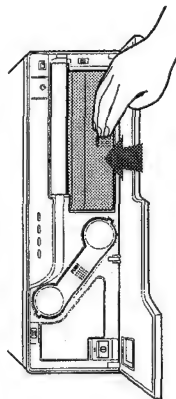
- 3 Place the paper in the paper tray.

#### Notes

- The amount of paper that the paper tray holds depends on the paper in use. When adding paper to a partly full tray, be careful that the total number of sheets does not exceed the limit. If you exceed this limit, paper jams may occur.
- The limit is the amount of paper contained in one printing pack. For detailed information on the maximum amount of paper that the paper tray can hold, see "Ink Ribbon Cartridge and Paper" page 22.
- Do not place different types of paper in the tray. Doing so may cause paper jams to occur.
- Load the paper so that it lays flat in the paper tray. If the paper is curled, it will overflow from the paper tray and the printing position may shift. If this happens, load fewer sheets in the paper tray.
- Two types of paper trays are supplied with this printer to house different paper size. Use the paper tray which fits the print paper size. For details, see "Ink Ribbon Cartridge and Paper" on page 22.



- 4 Slide the paper tray back into the printer until it clicks into place.



- 5 Close the front panel.

#### Notes

##### When handling the paper

Do not touch the printing surface. Dust or finger prints are likely to cause unsatisfactory printing or malfunction of the head. Hold the paper by the printing surface protection sheet.

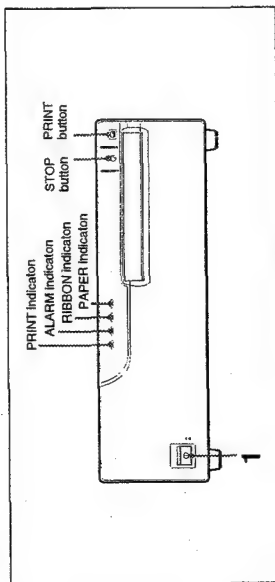
##### When storing print paper

- Avoid storing the print paper in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Use the original package for storing unused paper.

# Printing

## Before printing

- Ensure that the printer is properly connected to the computer (page 13).
- Ensure that the correct ink ribbon cartridge and paper are used (page 22).
- Ensure that the ink ribbon cartridge and print paper are properly loaded (pages 15 and 18).



## 1 Turn on the power of the printer, then computer.

All indicators, PRINT, ALARM, RIBBON and PAPER are lit, then all of them go out. Now the printer is in standby status.

## Notes

- When the printer is connected to the computer through SCSI interface bus, turn on the power of the printer before turning on the computer.
- Never turn the printer on or off while the computer is accessing its hard disk, floppy disk.

## 2 Turn on the power of the computer.

## 3 Send the image data from the computer to the printer, then send the print command.

While the printer is receiving the image data from the computer, the PRINT indicator blinks.

While the printer is printing, the PRINT indicator is lit.

## Notes

- Do not turn off the power during printing. If you do so, paper may not be ejected and may jam in the printer.
- Do not pull the paper out till the printer finishes printing.
- Do not leave the printouts more than 10 sheets on the paper cover. Doing so may cause jamming.

## To stop printing midway

Send the command or press the STOP button to stop printing. The printer returns to standby status.

## If the printer does not print

The printer will fail to print in the following cases when the ALARM, PAPER, and/or RIBBON indicator light. For details, see "Indicators on the Front Panel" page 25.

## When using the Self-laminating Color Printing Pack UPC-2040A

When the thermal head is cool, such as when making a first printout after switching on the printer, the printer preheats the head until it is sufficiently hot to start printing.

The print lamp blinks slowly during preheating. The printer automatically starts printing when the thermal head is sufficiently heated.

## Notes

When storing your printouts:

- Avoid storing the printout in a location subject to high temperatures, high humidity, excessive dust and direct sunlight.
- Do not stick tape on a printout. Also, avoid leaving a plastic eraser on a printout or placing a printout in contact with materials which contain plasticizer (under a desk mat, for example).
- Do not allow alcohol or other volatile organic solvents to come into contact with the printouts.



## Ink Ribbon Cartridge and Paper

Both paper and an ink ribbon cartridge are necessary for printing. Use the ink ribbon with the paper contained in the same package.

### About paper trays

Two types of paper trays are supplied with this printer to house two different paper sizes. Use the paper tray which fits the print paper size.

### Printing packs used with the standard size paper tray

**Color printing pack UPC-2010**  
Contains color ink ribbon cartridge and paper.

Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

**Self-adhesive color printing pack UPC-20S01**  
Contains an ink ribbon cartridge and paper for sticker.

Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

**16-split self-adhesive pre-cut color printing pack UPC-20S16**  
Contains an ink ribbon cartridge and paper for sticker of 16 reduced images.

Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

**4-split Self-adhesive pre-cut color printing pack UPC-20S04**  
Contains an ink ribbon cartridge and paper for sticker of 4 reduced images

Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

### B/W printing pack UPC-2020

Contains an ink ribbon cartridge and paper.  
B & W ink ribbon cartridge 1 roll  
A-6 (4 1/4 × 5 3/4 inches) size paper 200 sheets

### Printing packs used with the large size paper tray

**Self-laminating color printing pack UPC-2045**  
Contains an ink ribbon cartridge and paper for automatic laminate coating.  
Color ink ribbon cartridge 1 roll  
A-6 size paper 120 sheets

**Self-laminating color printing pack UPC-2040A**  
Recommended to use the UPC-2040A for identification photographs.

Contains an ink ribbon cartridge and paper for automatic laminate coating.  
Color ink ribbon cartridge 1 roll  
A-6 size paper 120 sheets

**Color postcard printing pack UPC-2070E**  
Contains an ink ribbon cartridge and paper for post cards.

Color ink ribbon cartridge 1 roll  
A-6 size paper 150 sheets

### Notes

- Use only the ink ribbon cartridge and paper designed for use with this printer. If you use a different type, the printer may not print properly or malfunction.
- Use the ink ribbon with the paper contained in the same package. If the printer detects an incompatible combination, ALARM and RIBBON indicators are lit. Doing so may result in degradation of the print picture quality and occurrence of any trouble.
- Ink ribbon and paper are not reusable. Once exhausted, replace them with new ones.

## Specifications

<b>Power requirements</b>	220 to 240 V AC, 50/60 Hz	<b>Degree of safety in the presence of flammable anesthetics or oxygen:</b>	Not suitable for use in the presence of flammable anesthetics or oxygen
<b>Power consumption</b>	About 1.0 A max. at 25°C, 240 V AC	<b>Mode of operation:</b>	Continuous
<b>Operating temperature</b>	5°C to 35°C (41°F to 95°F)	<b>Supplied accessories</b>	Standard size paper tray (1) Large size paper tray (1) AC power cord (1) Paper cover (1) CD-ROM® (1) Roller Cleaning kit (1) Software license agreement (1) Instructions for Use (1) a) Contains data for the instruction manual for the printer driver
<b>Operating humidity</b>	20 % to 80 % (no condensation allowed)		
<b>Storage and transport temperature</b>	-20°C to 60°C (-4°F to 140°F)		
<b>Storage and transport humidity</b>	20 % to 90 % (no condensation allowed)		
<b>Dimensions</b>	About 370 × 125 × 417 mm (w/h/d) (14 1/8 × 5 × 16 5/8 inches)		
<b>Mass</b>	About 9.5 kg (20 lb 15 oz)		
<b>Printing system</b>	Sublimation heat transfer printing		
<b>Picture Memory</b>	6 Mbytes	<b>Optional accessories</b>	Color printing pack UPC-2010 Self-laminating color printing pack UPC-2045 Self-laminating color printing pack UPC-2040A Self-adhesive color printing pack UPC-20S01 16-split Self-adhesive Pre-cut color printing pack UPC-20S16 4-split Self-adhesive Pre-cut color printing pack UPC-20S04 Color Postcard printing pack UPC-2070E B/W printing pack UPC-2020 UPA-2001 paper ejector
<b>Picture element</b>	Maximum 1365 × 1024 dots (310 dpi) 1646 × 1024 dots (for UPC-2045 and UPC-2040A)		
<b>Thermal head</b>	12.2 dots/mm (1024 dots)		
<b>Total gradation</b>	256 levels each for yellow, magenta, and cyan		
<b>Digital interface</b>	SCSI 1 channel Half-pitch 50-pin connector × 2 Input: Max. 5 V DC Output: Max. 5 V DC		
<b>Printing time</b>	For color printing (excluding the data transmission time): Approximately 50 seconds For Self-laminating color printing (excluding the data transmission time): UPC-2045: Approximately 70 seconds UPC-2040A: Approximately 100 seconds		
<b>Protection against electric shock:</b>	Class I		
<b>Protection against harmful ingress of water:</b>	Ordinary		

Design and specifications are subject to change without notice.

## Troubleshooting

The following troubleshooting check will help you correct the most common problems you may encounter with your unit. Before proceeding with these trouble checks, first check that the power cord is firmly connected. Should the problem persist, unplug the unit and contact your Sony service facility or your Sony dealer.

Symptom	Possible causes and remedies
The printer does not print, even if the command is sent from the computer.	<ul style="list-style-type: none"> <li>• The POWER switch of the printer is not set to ON.               <ul style="list-style-type: none"> <li>→ Set the POWER switch of the printer to ON.</li> </ul> </li> <li>• Connection may not be correct.               <ul style="list-style-type: none"> <li>→ Check connections and rectify, if necessary.</li> </ul> </li> <li>• SCSI ID setting is not set correctly.               <ul style="list-style-type: none"> <li>→ Check the SCSI ID setting. (page 12)</li> </ul> </li> </ul>
The printer does not print.	The problem is indicated by the indicators on the front panel. <ul style="list-style-type: none"> <li>→ See "Indicators on the Front Panel" on page 25 and perform the proper remedies.</li> </ul>

### Indicators on the Front Panel

If a problem occurs, the indicators on the front panel such as PRINT, ALARM, RIBBON and/or PAPER light or blink to indicate the problem condition. The following table shows the relation between lighting or blinking condition of each indicator and possible cause and remedies.

Indicators	Possible cause and remedies
Lighting	Blinking
PRINT	Printing
	PRINT
	Data receiving
	PRINT <sup>TM</sup> Adjusting the temperature of the thermal head so that the printer is ready to print.
PRINT	ALARM
	<ul style="list-style-type: none"> <li>• Printing stops midway               <ul style="list-style-type: none"> <li>→ The indicators stop lighting and blinking after the paper is ejected.</li> <li>• The paper which cannot be used, with this printer has been loaded.</li> <li>→ Wait until the paper is ejected. Then, load the appropriate paper.</li> </ul> </li> <li>• The ribbon has been exhausted.               <ul style="list-style-type: none"> <li>→ Replace the old ink ribbon cartridge with the new one. The ink ribbon cannot be reused. (page 15)</li> </ul> </li> <li>• The ink ribbon cartridge is not loaded.               <ul style="list-style-type: none"> <li>→ Load the ink ribbon cartridge. (page 15)</li> </ul> </li> </ul>
RIBBON	
PAPER	
	<ul style="list-style-type: none"> <li>• The paper has been exhausted.               <ul style="list-style-type: none"> <li>→ Load the paper in the paper tray. (page 18)</li> </ul> </li> <li>• The paper tray is not installed.               <ul style="list-style-type: none"> <li>→ Install the paper tray.</li> </ul> </li> </ul>
ALARM and PAPER	The ink ribbon cartridge and paper are not compatible. <ul style="list-style-type: none"> <li>→ Use a valid combination of paper and ink ribbon cartridge. (page 22)</li> </ul>
ALARM and RIBBON	<ul style="list-style-type: none"> <li>• The ink ribbon cartridge is defective.               <ul style="list-style-type: none"> <li>→ Replace the defective ink ribbon cartridge with the new one. (page 15)</li> </ul> </li> <li>• The ink ribbon has torn.               <ul style="list-style-type: none"> <li>→ Repair the tear. (page 17)</li> </ul> </li> <li>• The ink ribbon cartridge that cannot be used with the printer.               <ul style="list-style-type: none"> <li>→ Load the appropriate ink ribbon cartridge. (page 22)</li> </ul> </li> </ul>
ALARM	The paper has jammed inside the printer. <ul style="list-style-type: none"> <li>→ Remove the jammed paper. (page 26)</li> </ul>
	ALARM
	The top cover of the printer opens. <ul style="list-style-type: none"> <li>→ Close the top cover. (page 27)</li> </ul>
PRINT, ALARM, PAPER and RIBBON	<ul style="list-style-type: none"> <li>• Serviceman-call trouble occurs.               <ul style="list-style-type: none"> <li>→ Turn off the power immediately and contact your Sony service facility or your Sony dealer.</li> </ul> </li> </ul>

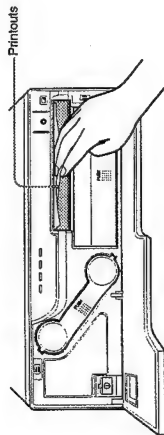
a) The indicator blinks slowly.

## Troubleshooting (continued)

### If the Paper Jams

If the paper jams after starting printing, the ALARM indicator lights. Follow the steps below to remove the jammed paper. When the jammed paper is removed, you do not need to continue operation explained below. Stop operation and reset removed paper cover, paper tray or ink ribbon holder if any.

- 1 Open the front panel.
- 2 If any printouts have been ejected to the paper cover and have accumulated on the paper cover, remove them. If not go to the next step.

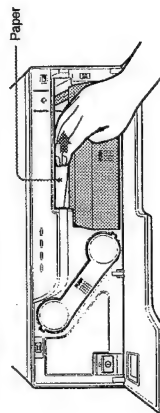


- 3 Turn off the power of the printer.

- 4 Remove the paper cover.  
When you can see paper inside the printer, go to step 5.  
When you cannot see paper, go to step 8.

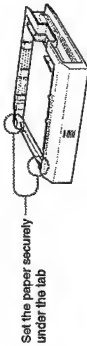
- 5 Slowly pull the paper into the paper tray.

**Note**  
Never attempt to pull a jammed paper down, up, backwards, or forwards, the paper may tangle or tear.  
If you cannot pull the paper, go to step 8.



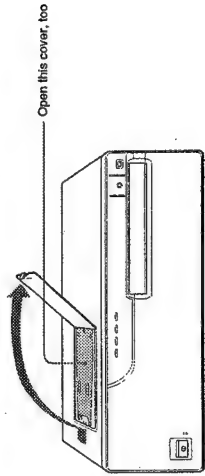
- 6 Remove the paper tray.

- 7 Load the paper into the paper tray correctly.  
Do not reuse the paper put back in step 5. Discard that paper.



- 8 Open the top white cover, then the black cover.  
If the paper has jammed inside, slowly pull the paper out.  
**If the jammed paper cannot be removed, the printer must not be operated. Contact your Sony service facility.**

When you cannot see the jammed paper, go to step 9.



- 9 Remove the ink ribbon cartridge.  
If there is a jammed paper, slowly pull out the paper.

- 10 Close the black cover, then the top white cover.  
Re-insert the removed paper tray, paper cover or ink ribbon cartridge if you removed, then close the front panel.

- 11 Turn on the power of the printer.  
When the ALARM indication does not light, you can use the printer as normal.  
If the ALARM indication lights again, the printer must not be operated. Turn off the power immediately and contact your Sony service facility.

#### Notes

- When the paper tangles around the paper roller, do not use a knife such as a blade to remove the jammed paper. This may damage the paper roller.
- If a paper jam occurs, the paper roller in the printer may be dirty. It is recommended that you clean the paper roller once a month using the supplied Roller Cleaning kit to keep it clean.
- Do not open the top cover during printing because of mechanical hazard. If you do, turn off the power switch of the printer.

||

SonyOnline <http://www.world.sony.com/>  
Printed on recycled paper Printed in Japan

Sony Corporation

**SONY.**

9-203-517-11 (1)

### 1-3. UP-D2600 (For UC)

## Digital Color Printer

Instructions for Use Page 2

GB

**CE**

*UP-D2600*

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Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. \_\_\_\_\_  
Serial No. \_\_\_\_\_

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.  
To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

THIS APPARATUS MUST BE EARTHED.

**Symbol on the products**

This symbol indicates the equipotential terminal which brings the various parts of a system to the same potential.

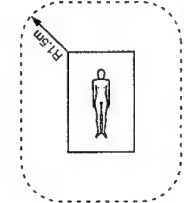
This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**For the customers in the U.S.A.**  
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.  
This device requires shielded interface cables to comply with FCC emission limits.

**For the customers in Canada**  
This unit has been certified according to Standard CSA C22.2 No.601.1.

**Important safeguards/notices for use in the medical environments**  
1. All the equipments connected to this unit shall be certified according to Standard IEC601-1, IEC950, IEC65 or other IEC/ISO Standards applicable to the equipments.  
2. When this unit is used together with other equipment in the patient area, the equipment shall be either powered by an isolation transformer or connected via an additional protective earth terminal to system ground unless it is certified according to Standard IEC601-1.



\* Patient Area

- 3. The leakage current could increase when connected to other equipment.
- 4. This equipment generates, uses, and can radiate frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause interference to other equipment. If this unit causes interference (which can be determined by unplugging the power cord from the unit), try these measures:  
Relocate the unit with respect to the susceptible equipment. Plug this unit and the susceptible equipment into different branch circuit. Consult your dealer. (According to standard EN60601-1-2 and CISPR11, Class B, Group 1)

**Caution**  
When you dispose of the unit or accessories, you must obey the law in the relative area or country and the regulation in the relative hospital.

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## About This Manual

This manual is divided into four chapters. This section explains the organization of this manual.

### Introduction

Describes the features and system configuration of the digital color printer. Notes the precautions to be observed when using the printer. Also provided is information on the location and function of parts.

### Preparation

Explains the steps involved in setting up the printer prior to getting started—checking the supplied accessories, assembly and connections.

### Operation

Describes loading of the ink ribbon cassette and print paper and actual printing operation.

### Others

Provides technical information on the printer, how to handle error occurrence, and how to deal with paper jams.

## Conventions used

### Cross reference

Throughout this manual you will find the references to other sections of the manual that contain related information.

### Important note

Be sure to read the sections of the manual marked **Note**. They explain points that you should be aware of to operate the printer correctly and prevent malfunctions.

### Trademarks

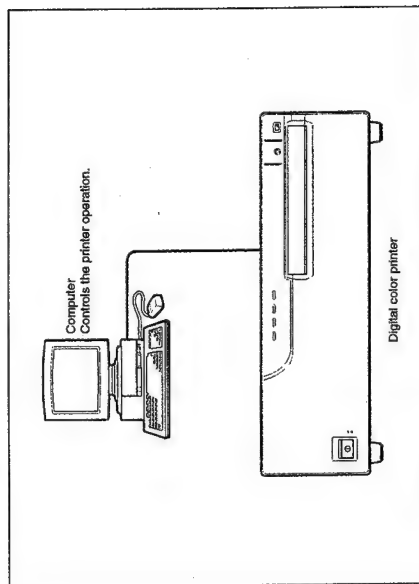
Windows is the registered trademark of Microsoft Corporation, USA.

## System Overview

The Sony UP-D2600 digital color printer is designed to reproduce computer images on A6-size paper.  
You can print out image data of Windows graphics application software in high resolution (310dpi) and 256 shades of gray or in full color (16,700,000 colors).  
By connecting the computer which supports ECP mode that is high transmission mode, data can be transmitted to and from a computer at high speed.  
For details, refer to the computer's manual.

## System Configuration

The following shows an example printer system configuration.



### About the printer driver

The printer driver application program is stored in a file supplied with the CD-ROM. For detailed information on how to install it, refer to the ReadMe file on the CD-ROM.



## Precautions

### Safety

- Operate the printer using the power source specified in "Specifications" (page 21)
- Be careful not to damage the power cable by placing or dropping heavy objects on it; it is dangerous to use the unit with a damaged power cable.
- If you do not intend to use the unit for a long time, disconnect the power cable.
- Unplug the power cable by grasping the plug, not the cable itself.
- Do not disassemble the unit.
- Do not remove the cover. There is a danger of electric shock from the internal parts.
- Be careful not to spill water or other liquids on the unit, or to allow combustible or metallic material to enter the cabinet. If used with foreign matter in the cabinet, the unit is liable to fail, or present a risk of fire or electric shock.
- Ventilation holes are provided to prevent the unit from overheating. Be careful not to obstruct them with other units or by covering the unit with a cloth etc.
- If the unit malfunctions or if a foreign body falls into the cabinet, disconnect the power immediately and consult your Sony service facility or your Sony dealer.

### Installation

- Avoid placing the unit in a location subject to:
  - mechanical vibration
  - high humidity
  - excessive dust
  - direct or excessive sunlight
  - extremely high or low temperatures
- Do not use other electronic equipment near the unit. The unit will not work properly in strong electromagnetic fields.
- Do not place a heavy object such as a monitor on the printer.

### Condensation

- If the printer is subject to wide and sudden changes in temperature, such as when it is moved from a cold room to a warm room or when it is left in a room with a heater that tends to produce large amounts of moisture, condensation may form inside the printer. In such cases the printer will probably not work properly, and may even develop a fault if you persist in using it. If condensation forms, turn off the power and leave the printer to stand for at least one hour.
- If the printing pack is subjected to wide and sudden changes in temperature, condensation may form on the ink ribbon or paper. This will cause the printer to malfunction. Also, if the printing pack is used in this state, spots are likely to appear on the printout. Therefore, avoid storing the printing pack in locations subject to wide and sudden changes of temperature.
- To store a half-used printing pack, replace it in its original packing and reseal the package. If possible, keep the sealed printing pack in a cool, dark location. To subsequently use the printing pack, place it, in its sealed package, in a warm room for several hours. Doing so prevents condensation from forming when the printing pack is removed from its package.

### Location

To prevent internal heat built-up, leave enough room around the printer for air to circulate through the vents on the left hand side of the cabinet.

### On transportation

Do not transport the printer with the supplied accessories. Doing so may cause malfunction.

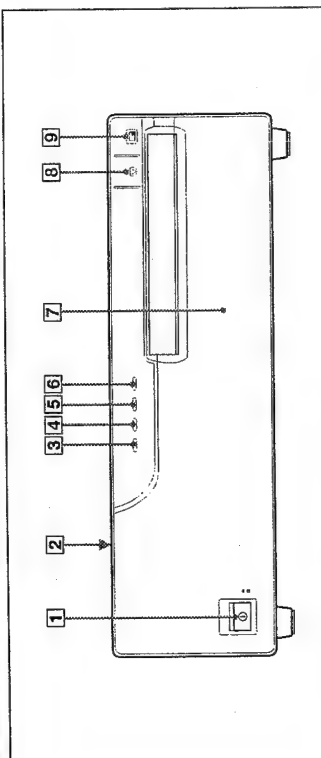
### Cleaning

Clean the cabinet, panel and controls with a soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzene, which may damage the finish.

## Location and Function of Parts and Controls

For details, refer to the pages given in parentheses.

### Front



**1 POWER switch (18)**

Press to switch the unit on or off. The POWER lamp lights green when the power is on.

**2 Top cover**

Do not open this top cover. Only for service personnel.

**3 PRINT indicator (18, 24)**

Lights while printing.  
Blinks while the printer is receiving data.

**4 ALARM indicator (18, 24)**

Lights in case of paper jamming or occurrence of any other problem.

**5 RIBBON indicator (18, 24)**

Lights when a problem for ink ribbon cartridge occurs.

**6 PAPER indicator (18, 24)**

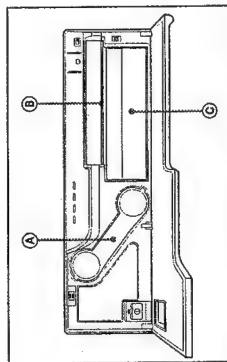
Lights when a problem for paper occurs.

The printer allows you to check the printer operating condition according to the lighting conditions of the PRINT indicator. ALARM indicator, PAPER indicator and RIBBON indicator.  
For details, see "Indicators on the Front Panel" on page 24.

**7 Front panel**

Pull the top on the front door toward you to open it.  
Opening the front panel reveals the ink ribbon cartridge, paper tray and paper cover.

When the front panel is open



**A Ink ribbon cartridge (11, 13)**

Insert the ink ribbon cartridge.

**B Paper cover (11)**

Paper is ejected onto this cover.

**C Paper tray (11, 16)**

Load paper into this tray.

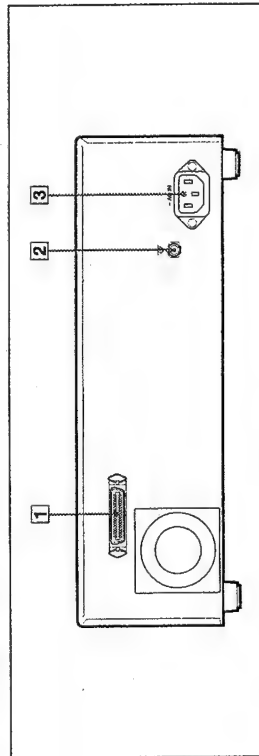
**STOP button (19)**

Press to stop printing midway.

**PRINT button (18)**

Press to print the image stored in the memory of the printer again.

### Rear



**1 Parallel interface connector (Amphenol 36-pin) (12)**

Used to connect a Windows computer via the parallel interface (IEEE-1284), using the parallel data cable (not supplied).  
Refer to "Important safeguard/notice for use in the medical environments" on page 2.

**2 Equipotential ground terminal**

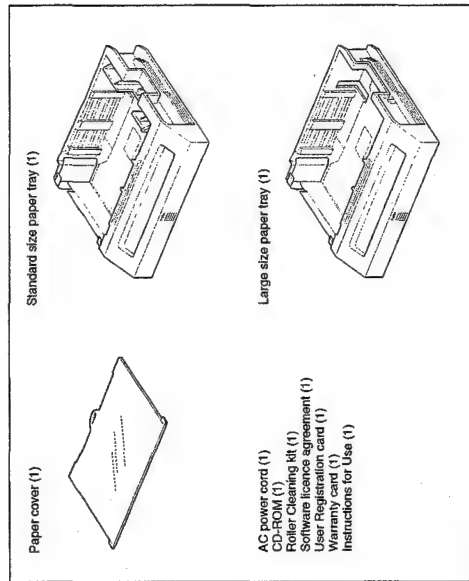
Used to connect to the equipotential plug to bring the various parts of a system to the same potential.  
Refer to "Important safeguards/notice for use in the medical environments" on page 2.

**3 AC IN connector**

Used to connect the printer to a wall outlet with the supplied power cord.

## Preparation Supplied Accessories

The printer is packed together with the following accessories. Check that nothing is missing from your package.

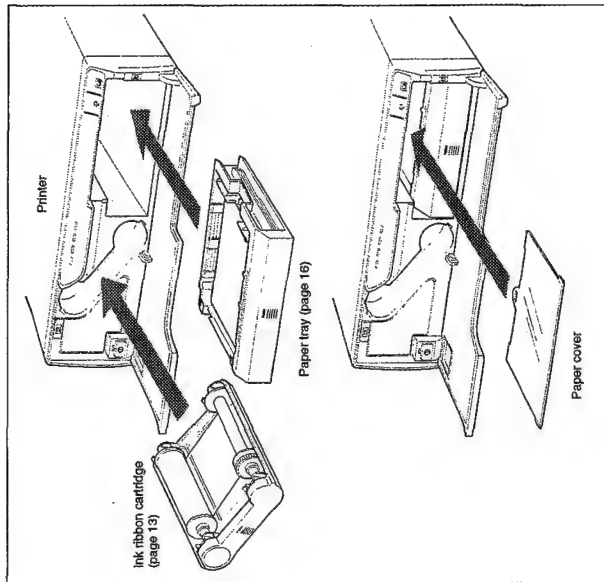


### Notes

- Retain the original carton and packing materials in case you have to transport the unit in the future.
- Remove the ink ribbon cartridge and paper tray when transporting the printer.

## Assembly

Attach the supplied paper cover, paper tray and ink ribbon cartridge to the printer. For details of how to assemble them, see the pages given in parentheses.

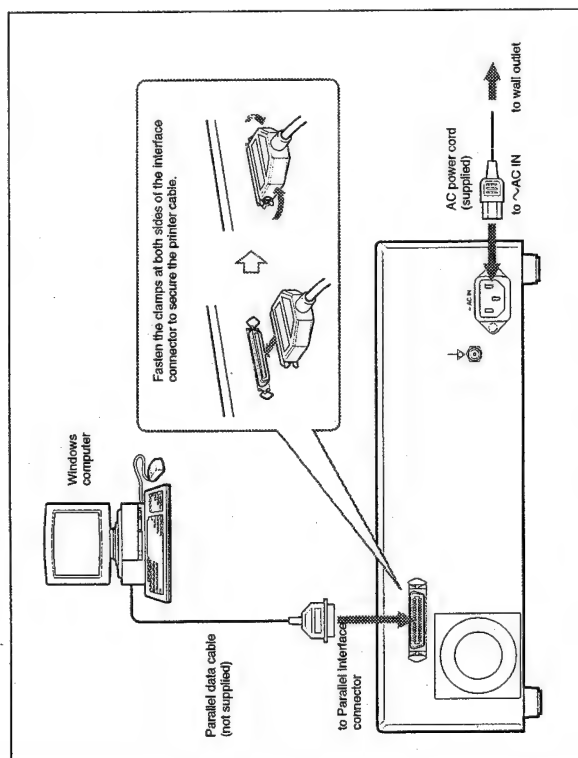


## Connecting the Computer

The UP-D2600 connects to the Windows computer via the parallel interface. Before connecting the computer, see "Important safeguards/notices for use in the medical environments" on page 2.

### Notes

- Turn off the power of each device before attempting to make any connections.
- Grab the connector at the end of the connecting cable, and firmly insert it into the socket.
- Use the shielded cable that should be less than 3 meters and conforms to the parallel specification, as the printer cable.
- To use the printer in ECP mode, use an interface cable in conformity to IEEE Std 1284.



### Note

The parallel cable connection requirement can vary between different computers and peripherals. For the details of your installation, refer to the manual of your computer and peripherals.

### Operation

## Before Printing

This section describes the following operations that must be made prior to starting printing after mounting the paper tray and paper cover on the printer and making the necessary connections.

- Loading an ink ribbon cartridge (see the below)
  - Loading paper (see page 16)
- Once the above operations have been completed, there should be no need to repeat them during routine printing. Perform them only when absolutely necessary.

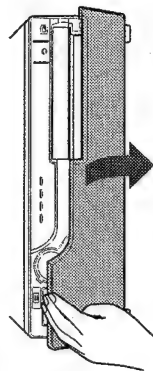
### Loading an Ink Ribbon Cartridge

To make printouts, an ink ribbon cartridge and paper (which are compatible) must be loaded. (see "Ink Ribbon Cartridge and Paper" page 20)  
Use the ink ribbon cartridge and print paper (supplied) to check if the printer functions properly.

### Notes

- Use only ink ribbon cartridge and paper that are designed for use with this printer. Failing to do so is likely to result in unsatisfactory printing or malfunctions.
- When you replace the ink ribbon cartridge while you are operating the printer, do not turn off the printer power. Turning off the power will cause the image stored in the memory to be lost.

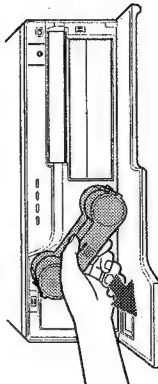
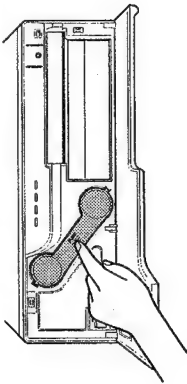
- 1 Open the front panel by pulling the front panel top toward you.



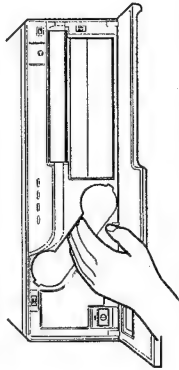
Continue to next page →

## Before Printing (continued)

- 2** Remove the ink ribbon cartridge by pushing the ink ribbon cartridge itself. The ink ribbon cartridge pops out. When you use the printer first, this operation is not required.

**Note**

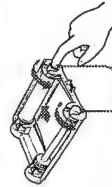
Never put your hand into the ink ribbon compartment. The thermal head becomes very hot. You may burn yourself if you touch it.

**When the ink ribbon cartridge cannot be ejected**

Turn the power off, then back on again. Then, after a while, press the ink ribbon cartridge.

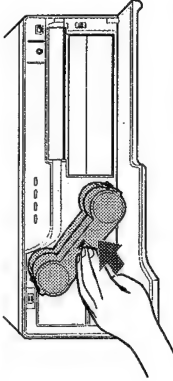
- 3** Remove any slack from the ink ribbon.

If the ribbon is left slack, it may be damaged when inserted.



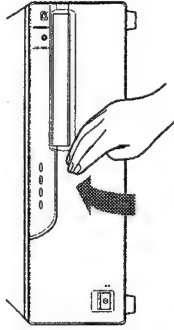
Wind the spool until the not-loused point comes to the right end.

- 4** Insert the ink ribbon cartridge firmly until it stops.

**When the ink ribbon cartridge cannot be inserted**

Turn the power off, then back on gain. Then, insert the ink ribbon holder.

- 5** Close the front panel.

**Notes****When using ink ribbon cartridge**

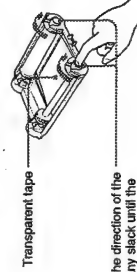
- Once an ink ribbon cartridge has been completely used, replace it. Ink ribbon cartridges are not reusable.
- Do not touch the ink ribbon cartridge or place it in a dusty location. Finger prints or dust on the ink ribbon will result in imperfect printing or malfunction of the head.

**When storing ink ribbon cartridge**

- Avoid placing the ink ribbon in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Store a partially used ink ribbon cartridge in its original packaging.

**If your ink ribbon should tear**

Repair the tear with transparent tape. There should be no problem with using the remaining portion of the ribbon.



Turn the spool in the direction of the arrow to remove any slack until the transparent tape cannot be seen.

## Before Printing (continued)

### Loading the Paper

To load paper, follow the procedure below. Be careful not to touch the printing surface.

#### Notes

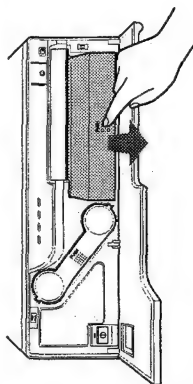
- Use only ink ribbon cartridge and paper that are designed for use with this printer. Failing to do so is likely to result in unsatisfactory printing or malfunctions.
- When you load paper while you are operating the printer, do not turn off the printer power. Turning off the power will cause the image stored in memory to be lost.

**1** Open the front panel by pulling the front panel top towards you.

**2** Push the part marked with **PUSH** on the paper tray.

The paper tray pops out.

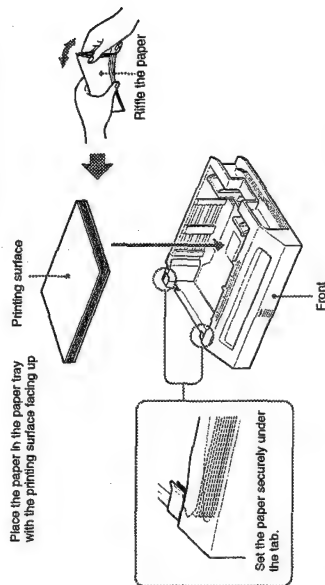
When you use the printer first, this operation is not required.



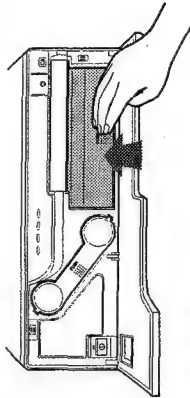
**3** Place the paper in the paper tray.

#### Notes

- The amount of paper that the paper tray holds depends on the paper in use. When adding paper to a partly full tray, be careful that the total number of sheets does not exceed the limit. If you exceed this limit, paper jams may occur.
  - The limit is the amount of paper contained in one printing pack. For detailed information on the maximum amount of paper that the paper tray can hold, see "Ink Ribbon Cartridge and Paper" page 20.
  - Do not place different types of paper in the tray. Doing so may cause paper jams to occur.
  - Load the paper so that it lays flat in the paper tray. If the paper is curled, it will overflow from the paper tray and the printing position may shift. If this happens, load fewer sheets in the paper tray.
  - Two types of paper trays are supplied with this printer to house different paper size.
  - Use the proper tray which fits the print paper size.
- For details, see "Ink Ribbon Cartridge and Paper" on page 20.



**4** Slide the paper tray back into the printer until it clicks into place.



**5** Close the front panel.

#### Notes

##### When handling the paper

Do not touch the printing surface. Dust or finger prints are likely to cause unsatisfactory printing or malfunction of the head. Hold the paper by the printing surface protection sheet.

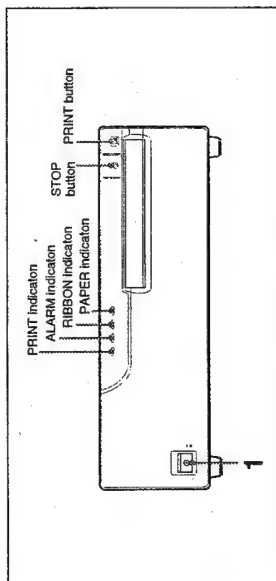
##### When storing print paper

- Avoid storing the print paper in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Use the original package for storing unused paper.

## Printing

### Before printing

- Ensure that the printer is properly connected to the computer (page 12).
- Ensure that the correct ink ribbon cartridge and paper are used (page 20).
- Ensure that the ink ribbon cartridge and print paper are properly loaded (pages 13 and 16).



- 1 Turn on the power of the printer, then computer.

All indicators, PRINT, ALARM, RIBBON and PAPER are lit, then all of them go out. Now the printer is in standby status.

### Note

Never turn the printer on or off while the computer is accessing its hard disk, floppy disk.

- 2 Turn on the power of the computer.
- 3 Send the image data from the computer to the printer, then send the print command.

While the printer is receiving the image data from the computer, the PRINT indicator blinks.

While the printer is printing, the PRINT indicator is lit.

### Notes

- Do not turn off the power during printing. If you do so, paper may not be ejected and may jam in the printer.
- Do not pull the paper out till the printer finishes printing.
- Do not leave the printouts more than 10 sheets on the paper cover. Doing so may cause jamming.

### To stop printing midway

Send the command or press the STOP button to stop printing. The printer returns to standby status.

### If the printer does not print

The printer will fail to print in the following cases when the ALARM, PAPER, and/or RIBBON indicator light. For details, see "Indicators on the Front Panel" page 24.

### When using the Self-laminating Color Printing Pack UPC-2040A

When the thermal head is cool, such as when making a first printout after switching on the printer, the printer preheats the head until it is sufficiently hot to start printing.

The print lamp blinks slowly during preheating. The printer automatically starts printing when the thermal head is sufficiently heated.

### Notes

When storing your printouts:

- Avoid storing the printout in a location subject to high temperatures, high humidity, excessive dust and direct sunlight.
- Do not stick tape on a printout. Also, avoid leaving a plastic eraser on a printout or placing a printout in contact with materials which contain plasticizer (under a desk mat, for example).
- Do not allow alcohol or other volatile organic solvents to come into contact with the printouts.



## Ink Ribbon Cartridge and Paper

Both paper and an ink ribbon cartridge are necessary for printing. Use the ink ribbon with the paper contained in the same package.

### About paper trays

Two types of paper trays are supplied with this printer to house two different paper sizes. Use the paper tray which fits the print paper size.

### Printing packs used with the standard size paper tray

**Color printing pack UPC-2010**  
Contains color ink ribbon cartridge and paper.  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

**Self-adhesive color printing pack UPC-20S01**  
Contains an ink ribbon cartridge and paper for sticker.  
Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

**16-split self-adhesive pre-cut color printing pack UPC-20S16**  
Contains an ink ribbon cartridge and paper for sticker of 16 reduced images.  
Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

**4-split Self-adhesive pre-cut color printing pack UPC-20S04**  
Contains an ink ribbon cartridge and paper for sticker of 4 reduced images  
Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

**B/W printing pack UPC-2020**  
Contains an ink ribbon cartridge and paper.  
B & W ink ribbon cartridge 1 roll  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

### Printing packs used with the large size paper tray

**Self-laminating color printing pack UPC-2045**  
Contains an ink ribbon cartridge and paper for automatic laminate coating.  
Color ink ribbon cartridge 1 roll  
A-6 size paper 120 sheets

**Self-laminating color printing pack UPC-2040A**  
Recommended to use the UPC-2040A for identification photographs.  
Contains an ink ribbon cartridge and paper for automatic laminate coating.  
Color ink ribbon cartridge 1 roll  
A-6 size paper 120 sheets

**Color postcard printing pack UPC-2070E**  
Contains an ink ribbon cartridge and paper for post cards.  
Color ink ribbon cartridge 1 roll  
A-6 size paper 150 sheets

### Notes

- Use only the ink ribbon cartridge and paper designed for use with this printer. If you use a different type, the printer may not print properly or malfunction.
- Use the ink ribbon with the paper contained in the same package. If the printer detects an incompatible combination, ALARM and RIBBON indicators are lit. Doing so may result in degradation of the print picture quality and occurrence of any trouble.
- Ink ribbon and paper are not reusable. Once exhausted, replace them with new ones.

## Specifications

<b>Power requirements</b> 100 to 120 V AC, 220 to 240 V AC, 50/60 Hz	<b>Protection against electric shock:</b> Class I
<b>Power consumption</b> About 1.0 A max. at 25°C, 240 V AC About 1.8 A max. at 25°C, 120 V AC	<b>Protection against harmful ingress of water:</b> Ordinary
<b>Operating temperature</b> 5°C to 35°C (41°F to 95°F)	<b>Degree of safety in the presence of flammable anesthetics or oxygen:</b> Not suitable for use in the presence of flammable anesthetics or oxygen
<b>Operating humidity</b> 20 % to 80 % (no condensation allowed)	<b>Mode of operation:</b> Continuous
<b>Storage and transport temperature</b> -20°C to 60°C (-4°F to 140°F)	<b>Supplied accessories</b> Standard size paper tray (1) Large size paper tray (1) AC power cord (1) Paper cover (1) CD-ROM* (1)
<b>Storage and transport humidity</b> 20 % to 90 % (no condensation allowed)	<b>Roller Cleaning Kit (1)</b> <b>Software license agreement (1)</b> <b>User Registration card (1)</b> <b>Warranty card (1)</b> <b>Instructions For Use (1)</b> a) Contains data for the instruction manual for the printer driver
<b>Dimensions</b> About 370 x 125 x 417 mm (w/h/d) (14 1/8 x 5 x 16 3/8 inches)	<b>Optional accessories</b> Color printing pack UPC-2010 Self-laminating color printing pack UPC-2045 Self-laminating color printing pack UPC-2040A Self-adhesive color printing pack UPC-20S01 16-split Self-adhesive Pre-cut color printing pack UPC-20S16 4-split Self-adhesive Pre-cut color printing pack UPC-20S04 Color Postcard printing pack UPC-2070E B/W printing pack UPC-2020 UPA-2001 paper ejector UPA-2003 Roller cleaning kit
<b>Mass</b> About 9.5 kg (20 lb 15 oz)	
<b>Printing system</b> Sublimation heat transfer printing	
<b>Picture Memory</b> 6 Mbytes	
<b>Picture element</b> Maximum 1365 x 1024 dots (310 dpi) 1646 x 1024 dots (for UPC-2045, UPC-2040A)	
<b>Thermal head</b> 12.2 dots/mm (1024 dots)	
<b>Total gradation</b> 256 levels each for yellow, magenta, and cyan	
<b>Printing time</b> For color printing (excluding the data transmission time): Approximately 50 seconds For Self-laminating color printing (excluding the data transmission time): UPC-2045: Approximately 70 seconds UPC-2040A: Approximately 100 seconds	

Continue to next page →

## Specifications (continued)

### Interface

Control connector  
IEEE 1284-B connector  
(amphenol 36-pin)  
Input: Max. 5 V (TTL)  
Output: Max. 5 V (TTL)

### Data transmission system

8 bit, parallel,  
IEEE Std 1284-1994 (Compatible,  
Nibble and ECP modes)

### Logic level

TTL

### Parallel interface connector pin assignment

Pin No.	I/O	Signal			
		Interface mode			
		Compatible	Nibble	ECP	
1	I	nStrobe	HostCk	HostCk	
2	I/O	Data1 (LSB)			
3	I/O	Data2			
4	I/O	Data3			
5	I/O	Data4			
6	I/O	Data5			
7	I/O	Data6			
8	I/O	Data7			
9	I/O	Data8 (MSB)			
10	O	nACK	PtCk	PeriphCk	
11	O	Busy	PtBusy	PeriphAck	
12	O	PErr	AcDataReq	nAckReverse	
13	O	Select	XtAg	XtAg	
14	I	nAutoFd	HostBusy	HostAck	
15		Not defined			
16-17		GND			
18	O	Peripheral Logic: High (pull up to +5 V at 1 kOhm)			
19-30		GND			
31	I	nInit	nInit	nReverseRequest	
32	O	nFault	nDataAvail	nPeriphRequest	
33		Not defined			
34		Not defined			
35		Not defined			
36	I	nSelectIn	IEEE 1284 Active/IEEE 1284 Active		

UP-D2600 supports Compatible, Nibble, and ECP modes of the two-way parallel interface standard (IEEE Std 1284-1994).

Design and specifications are subject to change without notice.

## Troubleshooting

The following troubleshooting check will help you correct the most common problems you may encounter with your unit. Before proceeding with these trouble checks, first check that the power cord is firmly connected. Should the problem persist, unplug the unit and contact your Sony service facility or your Sony dealer.

Symptom	Possible causes and remedies
The printer does not print even if the command is sent from the computer.	<ul style="list-style-type: none"> <li>The POWER switch of the printer is not set to ON.</li> <li>Set the POWER switch of the printer to ON.</li> <li>Connection may not be correct.</li> <li>Check connections and rectify, if necessary.</li> </ul>
The printer does not print.	<ul style="list-style-type: none"> <li>The problem is indicated by the indicators on the front panel.</li> <li>See "Indicators on the Front Panel" on page 24 and perform the proper remedies.</li> </ul>

## Troubleshooting (continued)

### Indicators on the Front Panel

If a problem occurs, the indicators on the front panel such as PRINT, ALARM, RIBBON and/or PAPER light or blink to indicate the problem condition. The following table show the relation between lighting or blinking condition of each indicator and possible cause and remedies.

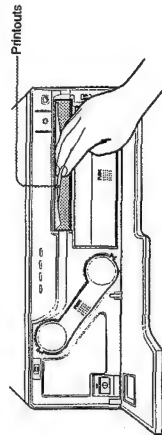
Possible causes and remedies	
Indicators	
Lighting	Blinking
PRINT	Printing
	Data receiving
PRINT	PRINT* Adjusting the temperature of the thermal head so that the printer is ready to print.
ALARM	<ul style="list-style-type: none"> <li>Printing stops midway.                             <ul style="list-style-type: none"> <li>→ The indicators stop lighting and blinking after the paper is ejected.</li> </ul> </li> <li>The paper which cannot be used, with this printer has been loaded.                             <ul style="list-style-type: none"> <li>→ Wait until the paper is ejected. Then, load the appropriate paper.</li> </ul> </li> <li>The ribbon has been exhausted.                             <ul style="list-style-type: none"> <li>→ Replace the old ink ribbon cartridge with the new one. The ink ribbon cannot be reused. (page 13)</li> </ul> </li> <li>The ink ribbon cartridge is not loaded.                             <ul style="list-style-type: none"> <li>→ Load the ink ribbon cartridge. (page 13)</li> </ul> </li> </ul>
RIBBON	
PAPER	<ul style="list-style-type: none"> <li>The paper has been exhausted.                             <ul style="list-style-type: none"> <li>→ Load the paper in the paper tray. (page 16)</li> </ul> </li> <li>The paper tray is not installed.                             <ul style="list-style-type: none"> <li>→ Install the paper tray.</li> </ul> </li> </ul>
ALARM and PAPER	The ink ribbon cartridge and paper are not compatible. <ul style="list-style-type: none"> <li>→ Use a valid combination of paper and ink ribbon cartridge. (page 22)</li> </ul>
ALARM and RIBBON	<ul style="list-style-type: none"> <li>The ink ribbon cartridge is defective.                             <ul style="list-style-type: none"> <li>→ Replace the defective ink ribbon cartridge with the new one. (page 13)</li> </ul> </li> <li>The ink ribbon has torn.                             <ul style="list-style-type: none"> <li>→ Repair the tear. (page 15)</li> </ul> </li> <li>The ink ribbon cartridge that cannot be used with the printer.                             <ul style="list-style-type: none"> <li>→ Load the appropriate ink ribbon cartridge. (page 20)</li> </ul> </li> </ul>
ALARM	The paper has jammed inside the printer. <ul style="list-style-type: none"> <li>→ Remove the jammed paper. (page 25)</li> </ul>
PRINT, ALARM, PAPER and RIBBON	Service-call trouble occurs. <ul style="list-style-type: none"> <li>→ Turn off the power immediately and contact your Sony service facility or your Sony dealer.</li> </ul>

a) The indicator blinks slowly.

### If the Paper Jams

If the paper jams after starting printing, the ALARM indicator lights. Follow the steps below to remove the jammed paper. When the jammed paper is removed, you do not need to continue operation explained below. Stop operation and reset removed paper cover, paper tray or ink ribbon holder if any.

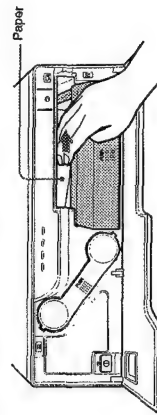
- 1 Open the front panel.
- 2 If any printouts have been ejected to the paper cover and have accumulated on the paper cover, remove them. If not go to the next step.



- 3 Turn off the power of the printer.
- 4 Remove the paper cover. When you can see paper inside the printer, go to step 5. When you cannot see paper, go to step 8.
- 5 Slowly pull the paper into the paper tray.

#### NOTE

Never attempt to pull a jammed paper down, up, backwards, or forwards, the paper may tangle or tear. If you cannot pull the paper, go to step 8.

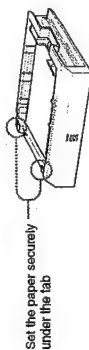


- 6 Remove the paper tray.

Continue to next page →

## Troubleshooting (continued)

- 7** Load the paper into the paper tray correctly.  
Do not reuse the paper put back in step 5. Discard that paper.



- 8** Remove the ink ribbon cartridge.  
If there is a jammed paper, slowly pull out the paper.  
**If the ink ribbon cartridge cannot be removed, the printer must not be operated. Contact your Sony service facility.**
- 9** Re-insert the removed paper tray, paper cover or ink ribbon cartridge if you removed, then close the front panel.
- 10** Turn on the power of the printer.  
When the ALARM indication does not light, you can use the printer as normal.  
If the ALARM indication lights again, the printer must not be operated. Turn off the power immediately and contact your Sony service facility.

**Note**

If a paper jam occurs, the paper roller in the printer may be dirty. It is recommended that you clean the paper roller once a month using the supplied Roller Cleaning kit to keep it clean.

Sony online <http://www.world.sony.com/>  
Printed on recycled paper Printed in Japan

Sony Corporation

**SONY.**

3-203-517-21 (1)

## 1-4. UP-D2600 (For CE)

# Digital Color Printer

Instructions for Use Page 2

GB

CE

UP-D2600

©1999 Sony Corporation

—

Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. \_\_\_\_\_  
Serial No. \_\_\_\_\_

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

THIS APPARATUS MUST BE EARTHED.

Symbol on the products



This symbol indicates the equipotential terminal which brings the various parts of a system to the same potential.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in the U.S.A.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

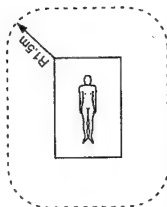
You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment. This device requires shielded interface cables to comply with FCC emission limits.

For the customers in Europe

Important safeguards/notices for use in the medical environments

- 1. All the equipments connected to this unit shall be certified according to Standard IEC601-1, IEC950, IEC65 or other IEC/ISO Standards applicable to the equipments.
- 2. When this unit is used together with other equipment in the patient area\*, the equipment shall be either powered by an isolation transformer or connected via an additional protective earth terminal to system ground unless it is certified according to Standard IEC601-1.

\* Patient Area



- 3. The leakage current could increase when connected to other equipment.
- 4. This equipment generates, uses, and can radiate frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause interference to other equipment. If this unit causes interference (which can be determined by unplugging the power cord from the unit), try these measures:
  - Relocate the unit with respect to the susceptible equipment. Plug this unit and the susceptible equipment into different branch circuit. Consult your dealer. (According to standard EN60601-1-2 and CISPR11, Class B, Group 1)

Caution

When you dispose of the unit or accessories, you must obey the law in the relative area or country and the regulation in the relative hospital.

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## About This Manual

This manual is divided into four chapters. This section explains the organization of this manual.

### Introduction

Describes the features and system configuration of the digital color printer. Notes the precautions to be observed when using the printer. Also provided is information on the location and function of parts.

### Preparation

Explains the steps involved in setting up the printer prior to getting started—checking the supplied accessories, assembly and connections.

### Operation

Describes loading of the ink ribbon cassette and print paper and actual printing operation.

### Others

Provides technical information on the printer, how to handle error occurrence, and how to deal with paper jams.

### Conventions used

#### Cross reference

Throughout this manual you will find the references to other sections of the manual that contain related information.

#### Important note

Be sure to read the sections of the manual marked **Note**. They explain points that you should be aware of to operate the printer correctly and prevent malfunctions.

#### Trademarks

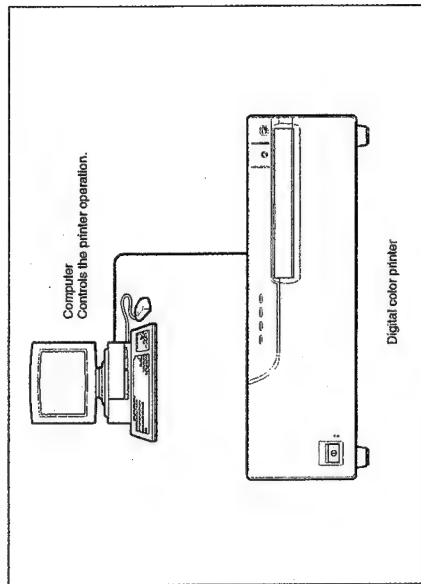
Windows is the registered trademark of Microsoft Corporation, USA.

## System Overview

The Sony UP-D2600 digital color printer is designed to reproduce computer images on A6-size paper. You can print out image data of Windows graphics application software in high resolution (310dpi) and 256 shades of gray or in full color (16,700,000 colors). By connecting the computer which supports ECP mode that is high transmission mode, data can be transmitted to and from a computer at high speed. For details, refer to the computer's manual.

## System Configuration

The following shows an example printer system configuration.



### About the printer driver

The printer driver application program is stored in a file supplied with the CD-ROM. For detailed information on how to install it, refer to the ReadMe file on the CD-ROM.



## Precautions

### Safety

- Operate the printer using the power source specified in "Specifications" (page 21).
- Be careful not to damage the power cable by placing or dropping heavy objects on it; it is dangerous to use the unit with a damaged power cable.
- If you do not intend to use the unit for a long time, disconnect the power cable.
- Unplug the power cable by grasping the plug, not the cable itself.
- Do not disassemble the unit.
- Do not remove the cover. There is a danger of electric shock from the internal parts.
- Be careful not to spill water or other liquids on the unit, or to allow combustible or metallic material to enter the cabinet. If used with foreign matter in the cabinet, the unit is liable to fail, or present a risk of fire or electric shock.
- Ventilation holes are provided to prevent the unit from overheating. Be careful not to obstruct them with other units or by covering the unit with a cloth etc.
- If the unit malfunctions or if a foreign body falls into the cabinet, disconnect the power immediately and consult your Sony service facility or your Sony dealer.
- Do not open the top cover of the printer during printing because of mechanical hazard. If you do, turn off the power switch first.

### Installation

- Avoid placing the unit in a location subject to:
  - mechanical vibration
  - high humidity
  - excessive dust
  - direct or excessive sunlight
  - extremely high or low temperatures
- Do not use other electronic equipment near the unit. The unit will not work properly in strong electromagnetic fields.
- Do not place a heavy object such as a monitor on the printer.

### Condensation

- If the printer is subject to wide and sudden changes in temperature, such as when it is moved from a cold room to a warm room or when it is left in a room with a heater that tends to produce large amounts of moisture, condensation may form inside the printer. In such cases the printer will probably not work properly, and may even develop a fault if you persist in using it. If condensation forms, turn off the power and leave the printer to stand for at least one hour.
- If the printing pack is subjected to wide and sudden changes in temperature, condensation may form on the ink ribbon or paper. This will cause the printer to malfunction. Also, if the printing pack is used in this state, spots are likely to appear on the printout. Therefore, avoid storing the printing pack in locations subject to wide and sudden changes of temperature.
- To store a half-used printing pack, replace it in its original packing and reseal the package. If possible, keep the sealed printing pack in a cool, dark location. To subsequently use the printing pack, place it, in its sealed package, in a warm room for several hours. Doing so prevents condensation from forming when the printing pack is removed from its package.

### Location

To prevent internal heat built-up, leave enough room around the printer for air to circulate through the vents on the left hand side of the cabinet.

### On transportation

Do not transport the printer with the supplied accessories. Doing so may cause malfunction.

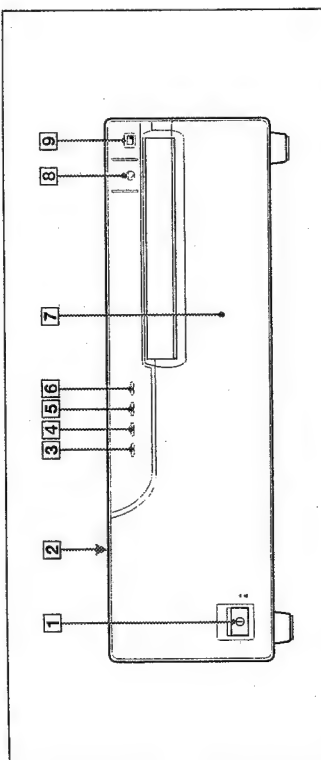
### Cleaning

Clean the cabinet, panel and controls with a soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzene, which may damage the finish.

## Location and Function of Parts and Controls

For details, refer to the pages given in parentheses.

### Front



**1 POWER switch (18)**

Press to switch the unit on or off. The POWER lamp lights green when the power is on.

**2 Top cover (26)**

Usually do not open this cover. Only in case the paper has jammed inside the top cover, open the top cover to remove a jammed paper. If you open the top cover, there is the other black cover inside. Open this black cover, too. Pay the following attention when opening the top cover.

Be sure to turn off the power of the printer before opening the top cover. If not, since the rubber roller is moving part, jewelry, loose cloth, hair and similar may be caught by the moving roller.

**3 PRINT indicator (18, 24)**

Lights while printing.  
Blinks while the printer is receiving data.

**4 ALARM indicator (18, 24)**

Lights in case of paper jamming or occurrence of any other problem.

**5 RIBBON indicator (18, 24)**

Lights when a problem for ink ribbon cartridge occurs.

**6 PAPER indicator (18, 24)**

Lights when a problem for paper occurs.

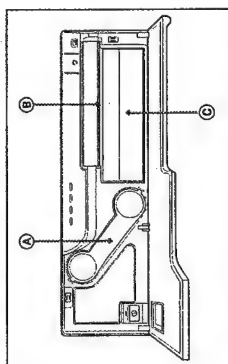
The printer allows you to check the printer operating condition according to the lighting conditions of the PRINT indicator, ALARM indicator, PAPER indicator and RIBBON indicator.

For details, see "Indicators on the Front Panel" on page 24.

**7 Front panel**

Pull the top on the front door toward you to open it.  
Opening the front panel reveals the ink ribbon cartridge, paper tray and paper cover.

When the front panel is open



**A Ink ribbon cartridge (11, 13)**

Insert the ink ribbon cartridge.

**B Paper cover (11)**

Paper is ejected onto this cover.

**C Paper tray (11, 16)**

Load paper into this tray.

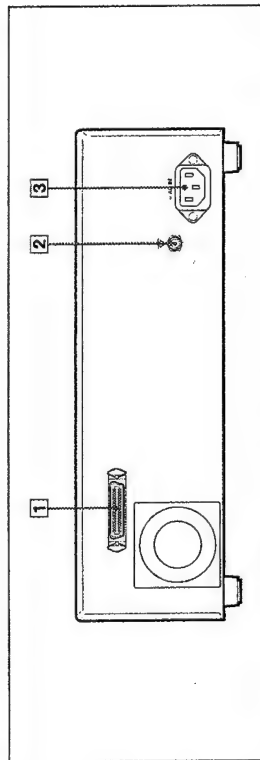
**8 STOP button (19)**

Press to stop printing midway.

**9 PRINT button (18)**

Press to print the image stored in the memory of the printer again.

### Rear



**1 Parallel interface connector (Amphenol 36-pin) (12)**

Used to connect a Windows computer via the parallel interface (IEEE-1284), using the parallel data cable (not supplied).  
Refer to "Important safeguards/notices for use in the medical environments" on page 2.

**2 Equipotential ground terminal**

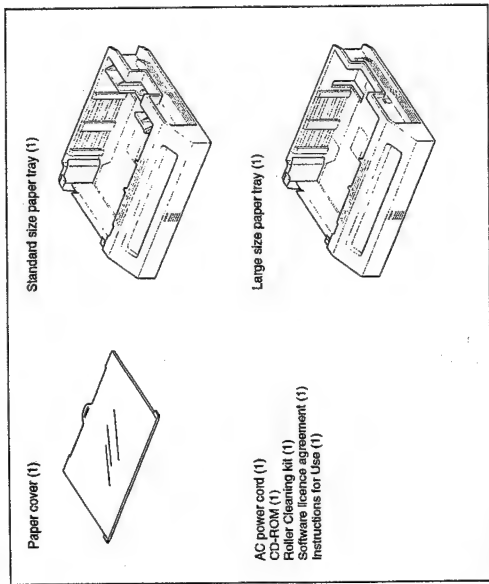
Used to connect to the equipotential plug to bring the various parts of a system to the same potential.  
Refer to "Important safeguards/notices for use in the medical environments" on page 2.

**3 AC IN connector**

Used to connect the printer to a wall outlet with the supplied power cord.

Preparation  
**Supplied Accessories**

The printer is packed together with the following accessories. Check that nothing is missing from your package.

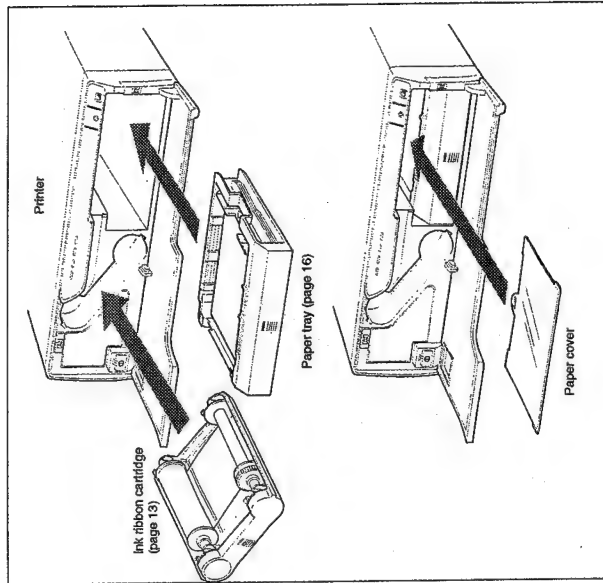


**Notes**

- Retain the original carton and packing materials in case you have to transport the unit in the future.
- Remove the ink ribbon cartridge and paper tray when transporting the printer.

**Assembly**

Attach the supplied paper cover, paper tray and ink ribbon cartridge to the printer. For details of how to assemble them, see the pages given in parentheses.

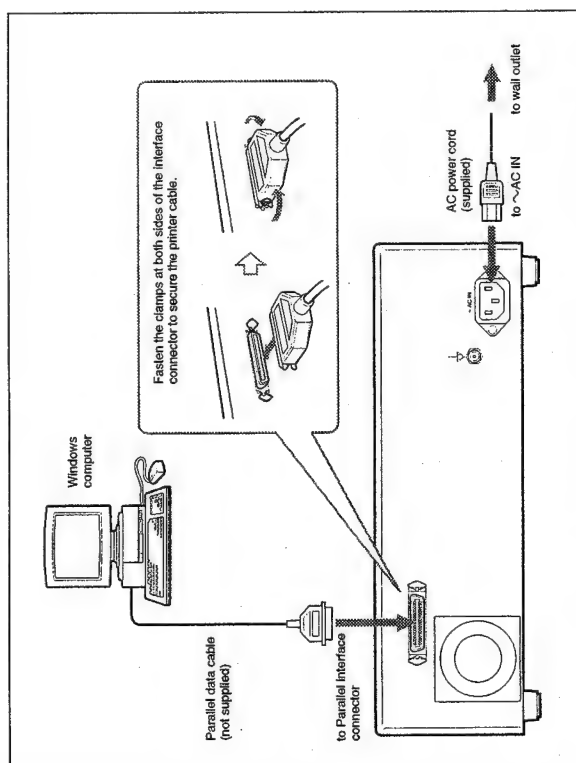


## Connecting the Computer

The UP-D2600 connects to the Windows computer via the parallel interface. Before connecting the computer, see "Important safeguards/notices for use in the medical environments" on page 2.

### Notes

- Turn off the power of each device before attempting to make any connections.
- Grab the connector at the end of the connecting cable, and firmly insert it into the socket.
- Use the shielded cable that should be less than 3 meters and conforms to the parallel specification, as the printer cable.
- To use the printer in ECP mode, use an interface cable in conformity to IEEE Std 1284.



### Note

The parallel cable connection requirement can vary between different computers and peripherals. For the details of your installation, refer to the manual of your computer and peripherals.

### Operation

## Before Printing

This section describes the following operations that must be made prior to starting printing after mounting the paper tray and paper cover on the printer and making the necessary connections.

- Loading an ink ribbon cartridge (see the below)
- Loading paper (see page 16)

Once the above operations have been completed, there should be no need to repeat them during routine printing. Perform them only when absolutely necessary.

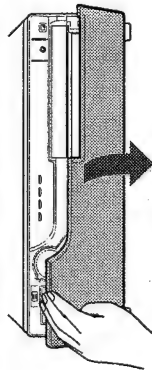
## Loading an Ink Ribbon Cartridge

To make printouts, an ink ribbon cartridge and paper (which are compatible) must be loaded. (see "Ink Ribbon Cartridge and Paper" page 20)  
Use the ink ribbon cartridge and print paper (supplied) to check if the printer functions properly.

### Notes

- Use only ink ribbon cartridge and paper that are designed for use with this printer. Failing to do so is likely to result in unsatisfactory printing or malfunctions.
- When you replace the ink ribbon cartridge while you are operating the printer, do not turn off the printer power. Turning off the power will cause the image stored in the memory to be lost.

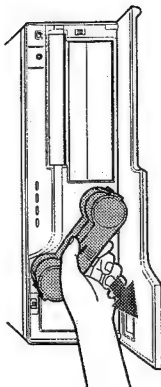
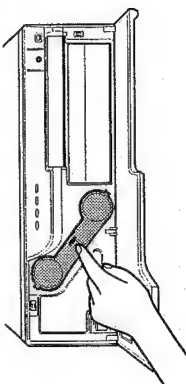
- 1 Open the front panel by pulling the front panel top toward you.



Continue to next page →

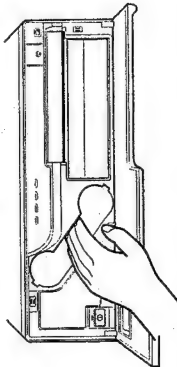
## Before Printing (continued)

- 2** Remove the ink ribbon cartridge by pushing the ink ribbon cartridge itself. The ink ribbon cartridge pops out. When you use the printer first, this operation is not required.



### Note

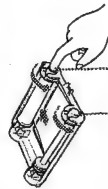
Never put your hand into the ink ribbon compartment. The thermal head becomes very hot. You may burn yourself if you touch it.



### When the ink ribbon cartridge cannot be ejected

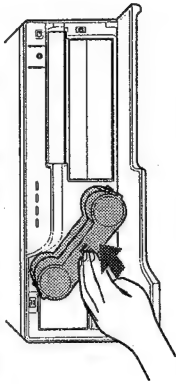
Turn the power off, then back on again. Then, after a while, press the ink ribbon cartridge.

- 3** Remove any slack from the ink ribbon. If the ribbon is left slack, it may be damaged when inserted.



Wind the spool until the not-used point comes to the right end.

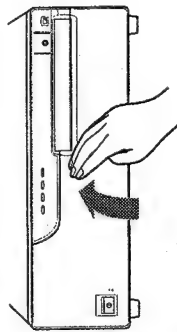
- 4** Insert the ink ribbon cartridge firmly until it stops.



### When the ink ribbon cartridge cannot be inserted

Turn the power off, then back on gain. Then, insert the ink ribbon holder.

- 5** Close the front panel.



### Notes

#### When using ink ribbon cartridge

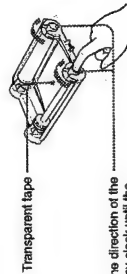
- Once an ink ribbon cartridge has been completely used, replace it. Ink ribbon cartridges are not reusable.
- Do not touch the ink ribbon cartridge or place it in a dusty location. Finger prints or dust on the ink ribbon will result in imperfect printing or malfunction of the head.

#### When storing ink ribbon cartridge

- Avoid placing the ink ribbon in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Store a partially used ink ribbon cartridge in its original packaging.

#### If your ink ribbon should tear

Repair the tear with transparent tape. There should be no problem with using the remaining portion of the ribbon.



Turn the spool in the direction of the arrow to remove any slack until the transparent tape cannot be seen.

## Before Printing (continued)

### Loading the Paper

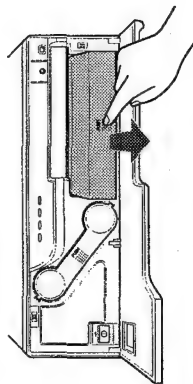
To load paper, follow the procedure below. Be careful not to touch the printing surface.

#### Notes

- Use only ink ribbon cartridge and paper that are designed for use with this printer. Failing to do so is likely to result in unsatisfactory printing or malfunctions.
- When you load paper while you are operating the printer, do not turn off the printer power. Turning off the power will cause the image stored in memory to be lost.

**1** Open the front panel by pulling the front panel top towards you.

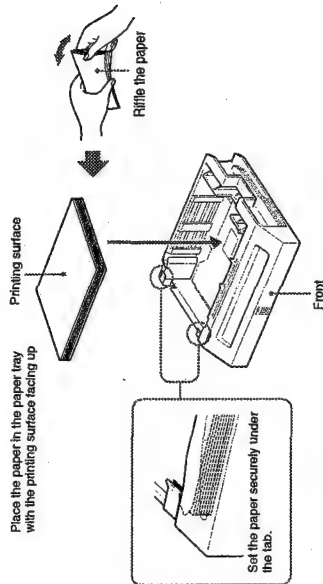
**2** Push the part marked with PUSH on the paper tray.  
The paper tray pops out.



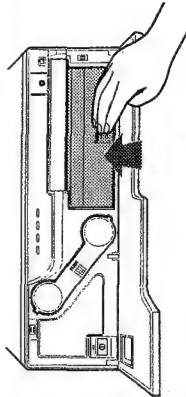
**3** Place the paper in the paper tray.

#### Notes

- The amount of paper that the paper tray holds depends on the paper in use. When adding paper to a partly full tray, be careful that the total number of sheets does not exceed the limit. If you exceed this limit, paper jams may occur.
  - The limit is the amount of paper contained in one printing pack. For detailed information on the maximum amount of paper that the paper tray can hold, see "Ink Ribbon Cartridge and Paper" page 20.
  - Do not place different types of paper in the tray. Doing so may cause paper jams to occur.
  - Load the paper so that it lays flat in the paper tray. If the paper is curled, it will overflow from the paper tray and the printing position may shift. If this happens, load fewer sheets in the paper tray.
  - Two types of paper trays are supplied with this printer to house different paper size.
- Use the paper tray which fits the print paper size.  
For details, see "Ink Ribbon Cartridge and Paper" on page 20.



**4** Slide the paper tray back into the printer until it clicks into place.



**5** Close the front panel.

#### Notes

##### When handling the paper

Do not touch the printing surface. Dust or finger prints are likely to cause unsatisfactory printing or malfunction of the head. Hold the paper by the printing surface protection sheet.

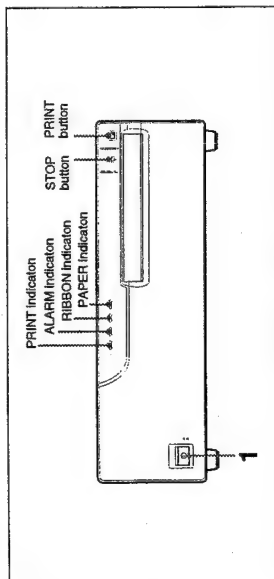
##### When storing print paper

- Avoid storing the print paper in a location subject to:
  - high temperatures
  - high humidity
  - excessive dust
  - direct sunlight
- Use the original package for storing unused paper.

## Printing

### Before printing

- Ensure that the printer is properly connected to the computer (page 12).
- Ensure that the correct ink ribbon cartridge and paper are used (page 20).
- Ensure that the ink ribbon cartridge and print paper are properly loaded (pages 13 and 16).



- 1 Turn on the power of the printer, then computer.  
All indicators, PRINT, ALARM, RIBBON and PAPER are lit, then all of them go out. Now the printer is in standby status.

### Note

Never turn the printer on or off while the computer is accessing its hard disk, floppy disk.

- 2 Turn on the power of the computer.
- 3 Send the image data from the computer to the printer, then send the print command.

While the printer is receiving the image data from the computer, the PRINT indicator blinks.

While the printer is printing, the PRINT indicator is lit.

### Notes

- Do not turn off the power during printing. If you do so, paper may not be ejected and may jam in the printer.
- Do not pull the paper out till the printer finishes printing.
- Do not leave the printouts more than 10 sheets on the paper cover. Doing so may cause jamming.

### To stop printing midway

Send the command or press the STOP button to stop printing.  
The printer returns to standby status.

### If the printer does not print

The printer will fail to print in the following cases when the ALARM, PAPER, and/or RIBBON indicator light.

For details, see "Indicators on the Front Panel" page 24.

### When using the Self-laminating Color Printing Pack UPC-2040A

When the thermal head is cool, such as when making a first printout after switching on the printer, the printer preheats the head until it is sufficiently hot to start printing.

The print lamp blinks slowly during preheating. The printer automatically starts printing when the thermal head is sufficiently heated.

### Notes

When storing your printouts:

- Avoid storing the printout in a location subject to high temperatures, high humidity, excessive dust and direct sunlight.
- Do not stick tape on a printout. Also, avoid leaving a plastic eraser on a printout or placing a printout in contact with materials which contain plasticizer (under a desk mat, for example).
- Do not allow alcohol or other volatile organic solvents to come into contact with the printouts.

## Ink Ribbon Cartridge and Paper

Both paper and an ink ribbon cartridge are necessary for printing. Use the ink ribbon with the paper contained in the same package.

### About paper trays

Two types of paper trays are supplied with this printer to house two different paper sizes. Use the paper tray which fits the print paper size.

### Printing packs used with the standard size paper tray

**Color printing pack UPC-2010**  
Contains color ink ribbon cartridge and paper.  
Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

**Self-adhesive color printing pack UPC-20S01**  
Contains an ink ribbon cartridge and paper for sticker.  
Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

**16-split self-adhesive pre-cut color printing pack UPC-20S16**  
Contains an ink ribbon cartridge and paper for sticker of 16 reduced images.  
Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

**4-split Self-adhesive pre-cut color printing pack UPC-20S04**  
Contains an ink ribbon cartridge and paper for sticker of 4 reduced images.  
Color ink ribbon cartridge 1 roll  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

**B/W printing pack UPC-2020**  
Contains an ink ribbon cartridge and paper.  
B & W ink ribbon cartridge 1 roll  
A-6 (4 1/4 x 5 3/4 inches) size paper 200 sheets

### Printing packs used with the large size paper tray

**Self-laminating color printing pack UPC-2045**  
Contains an ink ribbon cartridge and paper for automatic laminate coating.  
Color ink ribbon cartridge 1 roll  
A-6 size paper 120 sheets

**Self-laminating color printing pack UPC-2040A**  
Recommended to use the UPC-2040A for identification photographs.  
Contains an ink ribbon cartridge and paper for automatic laminate coating.  
Color ink ribbon cartridge 1 roll  
A-6 size paper 120 sheets

**Color postcard printing pack UPC-2070E**  
Contains an ink ribbon cartridge and paper for post cards.  
Color ink ribbon cartridge 1 roll  
A-6 size paper 150 sheets

### Notes

- Use only the ink ribbon cartridge and paper designed for use with this printer. If you use a different type, the printer may not print properly or malfunction.
- Use the ink ribbon with the paper contained in the same package. If the printer detects an incompatible combination, ALARM and RIBBON indicators are lit. Doing so may result in degradation of the print picture quality and occurrence of any trouble.
- Ink ribbon and paper are not reusable. Once exhausted, replace them with new ones.

## Specifications

Power requirements	100 to 120 V AC, 220 to 240 V AC, 50/60 Hz	Protection against electric shock: Class I
Power consumption	About 1.8 A max. at 25°C, 120 V AC About 1.0 A max. at 25°C, 240 V AC	Protection against harmful ingress of water: Ordinary
Operating temperature	5°C to 35°C (41°F to 95°F)	Degree of safety in the presence of flammable anesthetics or oxygen: Not suitable for use in the presence of flammable anesthetics or oxygen
Operating humidity	20 % to 80 % (no condensation allowed)	Mode of operation: Continuous
Storage and transport temperature	-20°C to 60°C (-4°F to 140°F)	Supplied accessories
Storage and transport humidity	20 % to 90 % (no condensation allowed)	Standard size paper tray (1)
Dimensions	About 370 x 125 x 417 mm (w/h/d) (14 1/8 x 5 x 16 1/4 inches)	Large size paper tray (1)
Mass	About 9.5 kg (20 lb 15 oz)	AC power cord (1)
Printing system	Sublimation heat transfer printing	Paper cover (1)
Picture Memory	6 Mbytes	CD-ROM® (1)
Picture element	Maximum 1365 x 1024 dots (310 dpi) 1646 x 1024 dots (for UPC-2045 and UPC-2040A)	Roller Cleaning kit (1)
Thermal head	12.2 dots/mm (1024 dots)	Software license agreement (1)
Total gradation	256 levels each for yellow, magenta, and cyan	Instructions for Use (1)
Printing time	For color printing (excluding the data transmission time): Approximately 50 seconds For Self-laminating color printing (excluding the data transmission time): Approximately 70 seconds UPC-2045: Approximately 100 seconds UPC-2040A: Approximately 100 seconds	a) Contains data for the instruction manual for the printer driver
		Optional accessories
		Color printing pack UPC-2010
		Self-laminating color printing pack UPC-2045
		Self-laminating color printing pack UPC-2040A
		Self-adhesive color printing pack UPC-20S01
		16-split Self-adhesive Pre-cut color printing pack UPC-20S16
		4-split Self-adhesive Pre-cut color printing pack UPC-20S04
		Color Postcard printing pack UPC-2070E
		B/W printing pack UPC-2020
		UPA-2001 paper ejector
		UPA-2003 Roller cleaning kit

Continue to next page →



## Specifications (continued)

### Interface

Control connector  
IEEE 1284-B connector (amphenol 36-pin)  
Input: Max. 5 V (TTL)  
Output: Max. 5 V (TTL)  
Data transmission system  
8 bit, parallel,  
IEEE Std 1284-1994 (Compatible, Nibble  
and ECP modes)  
Logic level  
TTL

### Parallel Interface connector pin assignment

Pin No.	IO	Signal			
		Interface mode			
		Compatible	Nibble	ECP	
1	I	nStrobe	HostCk	HostCk	HostCk
2	IO		Data1 (LSB)		
3	IO		Data2		
4	IO		Data3		
5	IO		Data4		
6	IO		Data5		
7	IO		Data6		
8	IO		Data7		
9	IO		Data8 (MSB)		
10	O	nACK	PrntCk	PrntCk	PrntCk
11	O	Busy	PrntBusy	PrntBack	PrntBack
12	O	PErr	AcqDataReq	nAckReverse	nAckReverse
13	O	Select	Xtlaq	Xtlaq	Xtlaq
14	I	nAutoFd	HostBusy	HostAck	HostAck
15			Not defined		
16-17			GND		
18	O	Peripheral Logic High (pull up to +5 V at 1 kOhm)			
19-30			GND		
31	I	nInit	nInit	nReverseRequest	nReverseRequest
32	O	nFault	nData/Avail	nPeriphRequest	nPeriphRequest
33			Not defined		
34			Not defined		
35			Not defined		
36	I	nSelectIn	IEEE 1284 Active	IEEE 1284 Active	IEEE 1284 Active

UP-D2600 supports Compatible, Nibble, and ECP modes of the two-way parallel interface standard (IEEE Std 1284-1994).

Design and specifications are subject to change without notice.

## Troubleshooting

The following troubleshooting check will help you correct the most common problems you may encounter with your unit. Before proceeding with these trouble checks, first check that the power cord is firmly connected. Should the problem persist, unplug the unit and contact your Sony service facility or your Sony dealer.

Symptom	Possible causes and remedies
The printer does not print, even if the command is sent from the computer.	<ul style="list-style-type: none"> <li>• The POWER switch of the printer is not set to ON. → Set the POWER switch of the printer to ON.</li> <li>• Connection may not be correct. → Check connections and rectify, if necessary.</li> </ul>
The printer does not print.	<ul style="list-style-type: none"> <li>• The problem is indicated by the indicators on the front panel. → See "Indicators on the Front Panel" on page 24 and perform the proper remedies.</li> </ul>

## Troubleshooting (continued)

### Indicators on the Front Panel

If a problem occurs, the indicators on the front panel such as PRINT, ALARM, RIBBON and/or PAPER light or blink to indicate the problem condition. The following table show the relation between lighting or blinking condition of each indicator and possible cause and remedies.

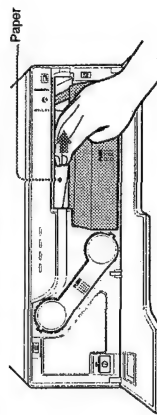
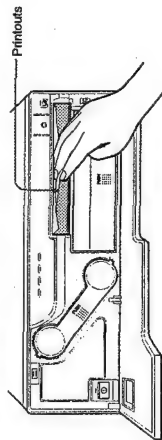
Indicators	Possible cause and remedies	
	Lighting	Blinking
PRINT	Printing	
	PRINT	Data receiving
ALARM	Adjusting the temperature of the thermal head so that the printer is ready to print.	
	PRINT <sup>a)</sup>	
RIBBON	ALARM	
	<ul style="list-style-type: none"> <li>• Printing stops midway.</li> <li>→ The indicators stop lighting and blinking after the paper is ejected.</li> <li>• The paper which cannot be used, with this printer has been loaded.</li> <li>→ Wait until the paper is ejected. Then, load the appropriate paper.</li> <li>• The ribbon has been exhausted.</li> <li>→ Replace the old ink ribbon cartridge with the new one. The ink ribbon cannot be reused. (page 13)</li> <li>• The ink ribbon cartridge is not loaded.</li> <li>→ Load the ink ribbon cartridge. (page 13)</li> </ul>	
PAPER	<ul style="list-style-type: none"> <li>• The paper has been exhausted.</li> <li>→ Load the paper in the paper tray. (page 16)</li> <li>• The paper tray is not installed.</li> <li>→ Install the paper tray.</li> </ul>	
ALARM and PAPER	<ul style="list-style-type: none"> <li>• The ink ribbon cartridge and paper are not compatible.</li> <li>→ Use a valid combination of paper and ink ribbon cartridge. (page 22)</li> </ul>	
ALARM and RIBBON	<ul style="list-style-type: none"> <li>• The ink ribbon cartridge is defective.</li> <li>→ Replace the defective ink ribbon cartridge with the new one. (page 13)</li> <li>• The ink ribbon has torn.</li> <li>→ Repair the tear. (page 15)</li> <li>• The ink ribbon cartridge that cannot be used with the printer.</li> <li>→ Load the appropriate ink ribbon cartridge. (page 20)</li> </ul>	
ALARM	<ul style="list-style-type: none"> <li>• The paper has jammed inside the printer.</li> <li>→ Remove the jammed paper. (page 25)</li> <li>→ Close the top cover. (page 26)</li> </ul>	
PRINT, ALARM, PAPER and RIBBON	<ul style="list-style-type: none"> <li>• Service-man-call trouble occurs.</li> <li>→ Turn off the power immediately and contact your Sony service facility or your Sony dealer.</li> </ul>	

a) The indicator blinks slowly.

### If the Paper Jams

If the paper jams after starting printing, the ALARM indicator lights. Follow the steps below to remove the jammed paper. When the jammed paper is removed, you do not need to continue operation explained below. Stop operation and reset removed paper cover, paper tray or ink ribbon holder if any.

- 1 Open the front panel.
- 2 If any printouts have been ejected to the paper cover and have accumulated on the paper cover, remove them. If not go to the next step.
- 3 Turn off the power of the printer.
- 4 Remove the paper cover.  
When you can see paper inside the printer, go to step 5.  
When you cannot see paper, go to step 8.
- 5 Slowly pull the paper into the paper tray.  
**Note**  
Never attempt to pull a jammed paper down, up, backwards, or forwards, the paper may tangle or tear.  
If you cannot pull the paper, go to step 8.



- 6 Remove the paper tray.

Continue to next page →

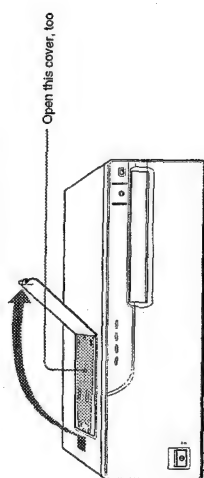
## Troubleshooting (continued)

- 7** Load the paper into the paper tray correctly.  
Do not reuse the paper put back in step 5. Discard that paper.



- 8** Open the top white cover, then the black cover.  
If the paper has jammed inside, slowly pull the paper out.  
**If the jammed paper cannot be removed, the printer must not be operated. Contact your Sony service facility.**

When you cannot see the jammed paper, go to step 9.



- 9** Remove the ink ribbon cartridge.  
If there is a jammed paper, slowly pull out the paper.
- 10** Close the black cover, then the top white cover.  
Re-insert the removed paper tray, paper cover or ink ribbon cartridge if you removed, then close the front panel.
- 11** Turn on the power of the printer.  
When the ALARM indicator does not light, you can use the printer as normal.  
If the ALARM indicator lights again, the printer must not be operated. Turn off the power immediately and contact your Sony service facility.

### Notes

- When the paper tangles around the paper roller, do not use a knife such as a blade to remove the jammed paper. This may damage the paper roller.
- If a paper jam occurs, the paper roller in the printer may be dirty. It is recommended that you clean the paper roller once a month using the supplied Roller Cleaning kit to keep it clean.
- Do not open the top cover during printing because of mechanical hazard. If you do, turn off the power switch of the printer.

||

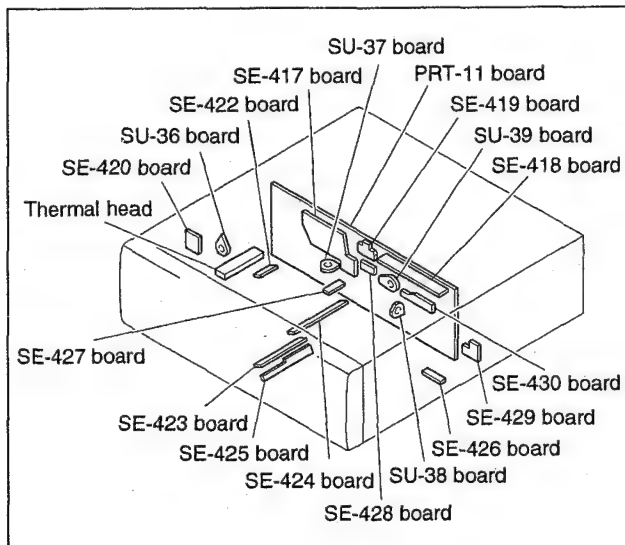
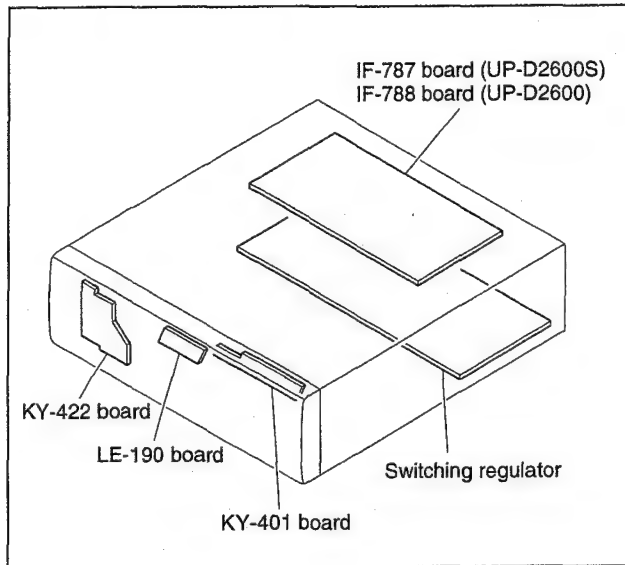
Sony online <http://www.world.sony.com/>  
Printed on recycled paper Printed in Japan

Sony Corporation

## Section 2

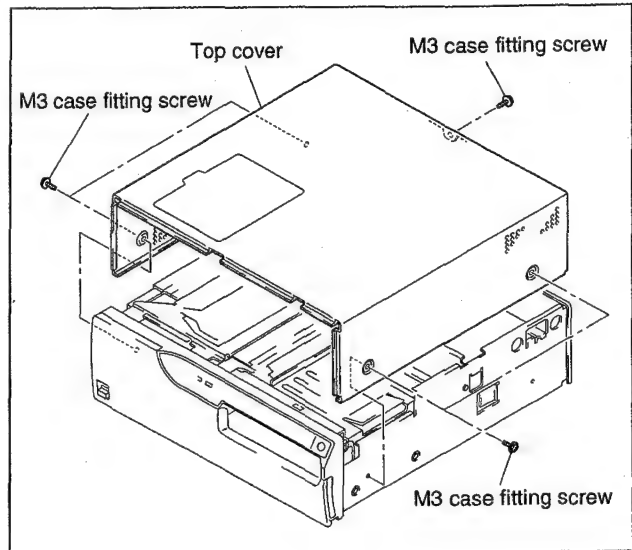
### Service Information

#### 2-1. Board Layout



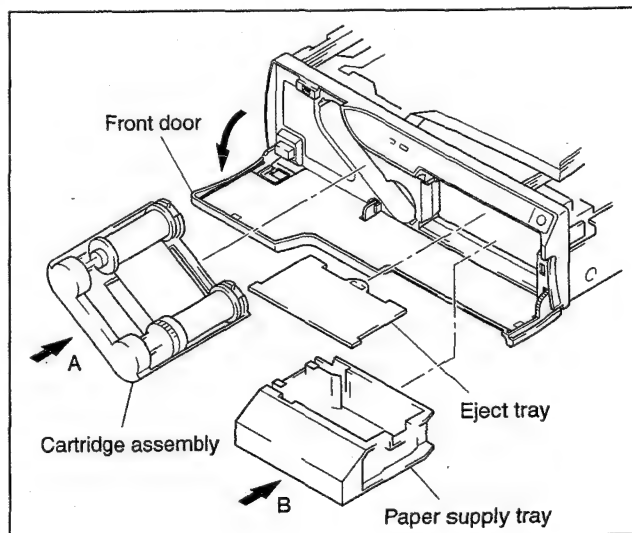
#### 2-2. Disassembly

##### 2-2-1. Removal of the Top Cover



##### 2-2-2. Removal of the Front Panel Assembly

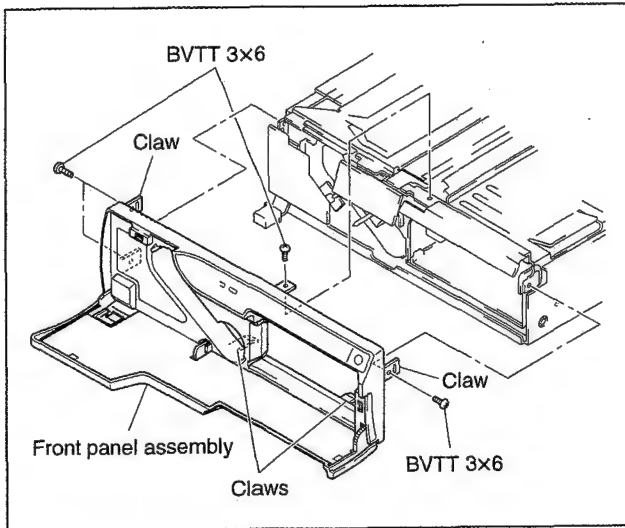
1.



#### Note

Push the cartridge assembly and paper supply tray in the direction indicated by arrow A or B, then take out them.

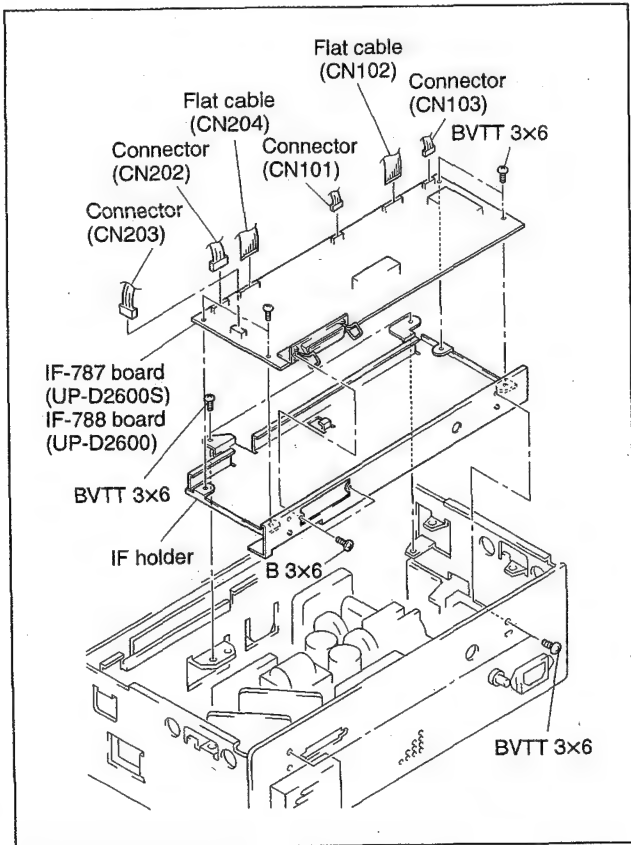
2.



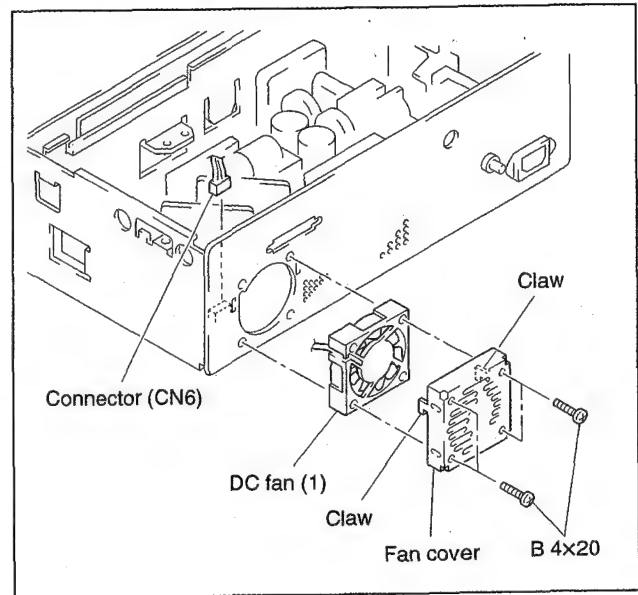
**Note**

Remove the four claws, then remove the front panel assembly.

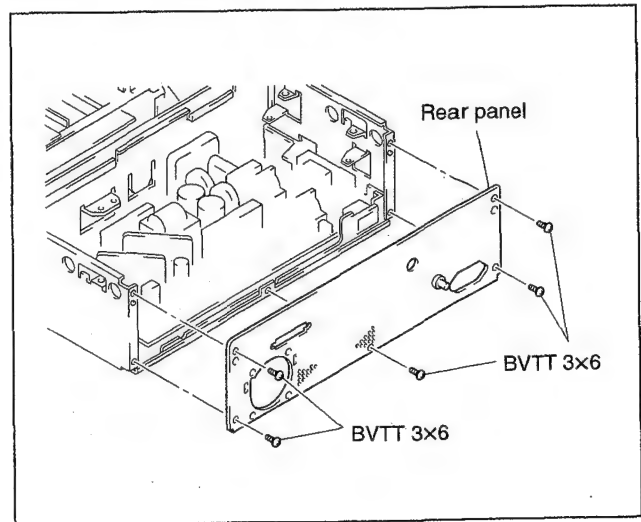
**2-2-3. Removal of the IF-787 and IF-788 Boards**



**2-2-4. Removal of the DC Fan (1)**

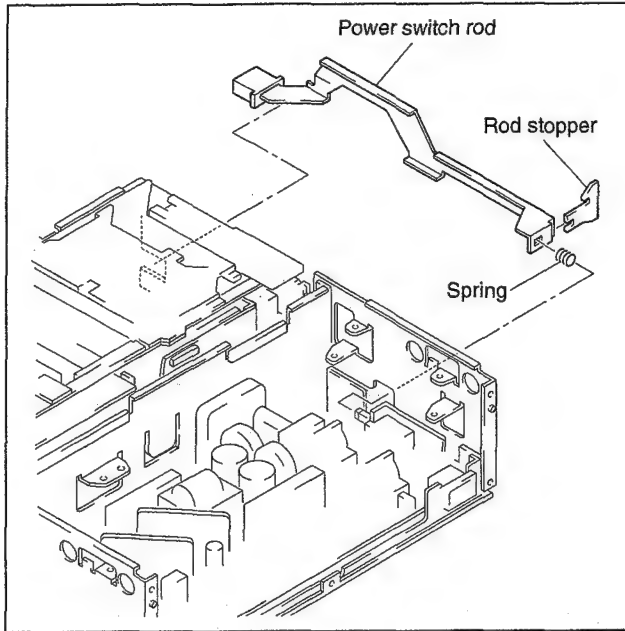


**2-2-5. Removal of the Rear Panel**

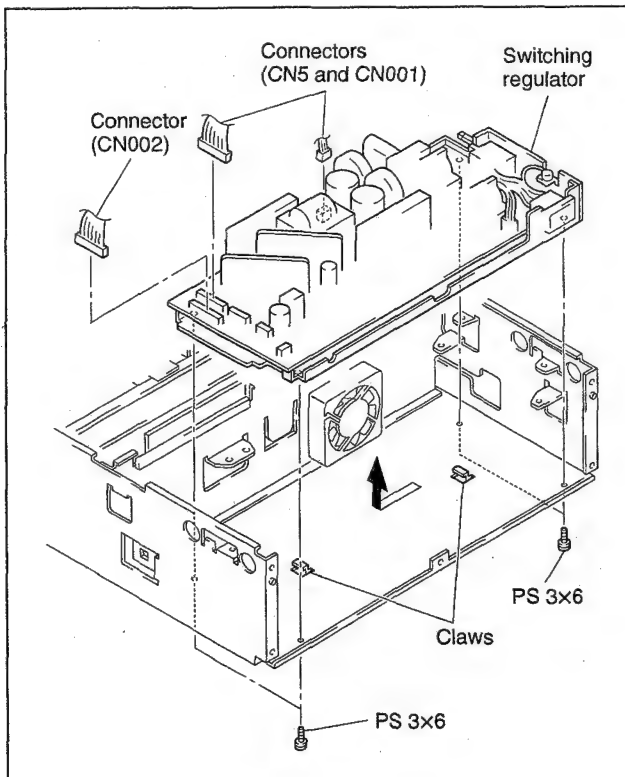


## 2-2-6. Removal of the Switching Regulator

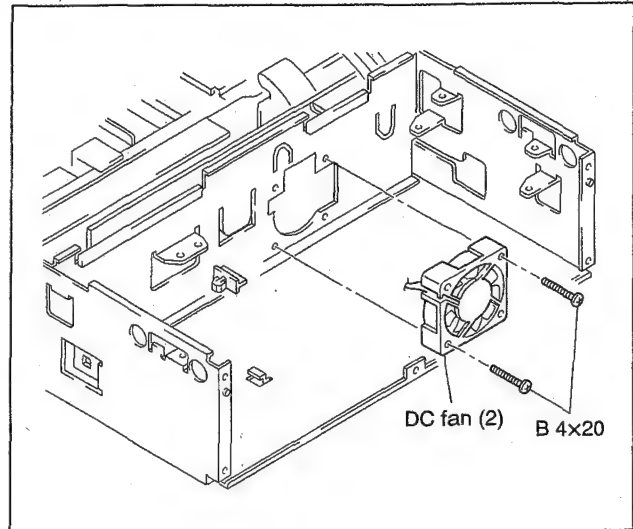
1.



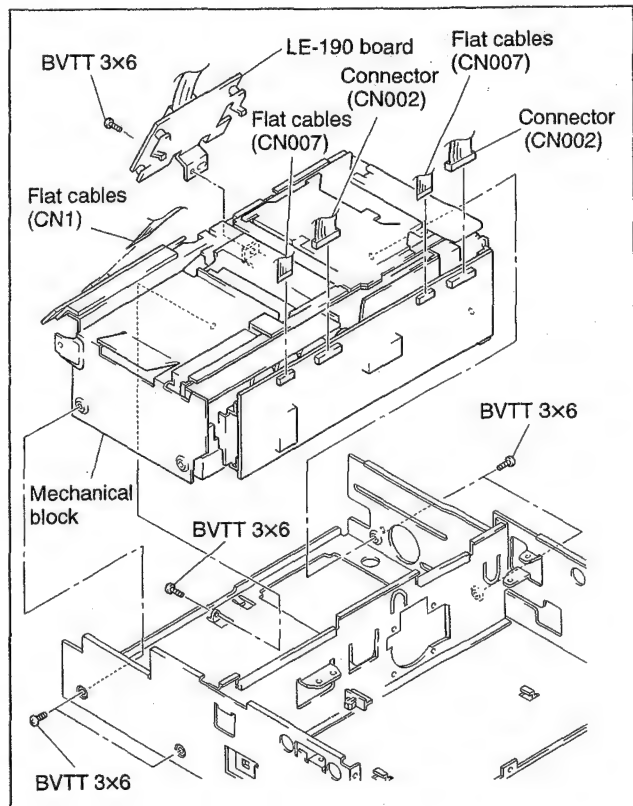
2.



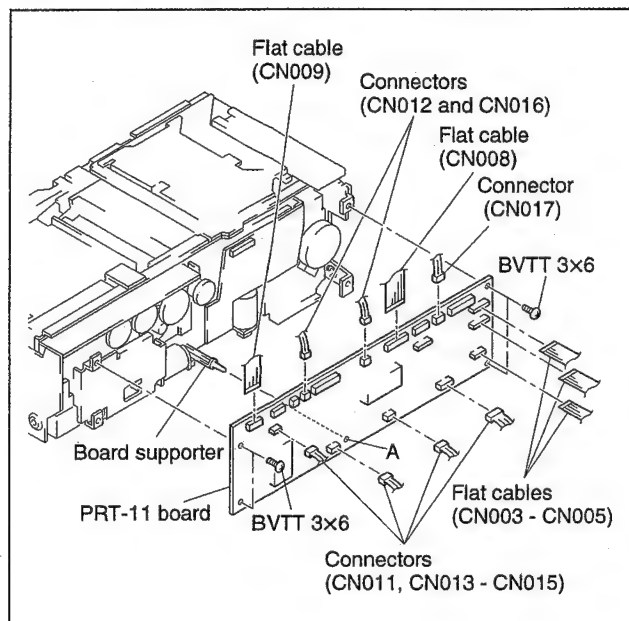
## 2-2-7. Removal of the DC Fan (2)



## 2-2-8. Removal of the Mechanical Block



## 2-2-9. Removal of the PRT-11 Board

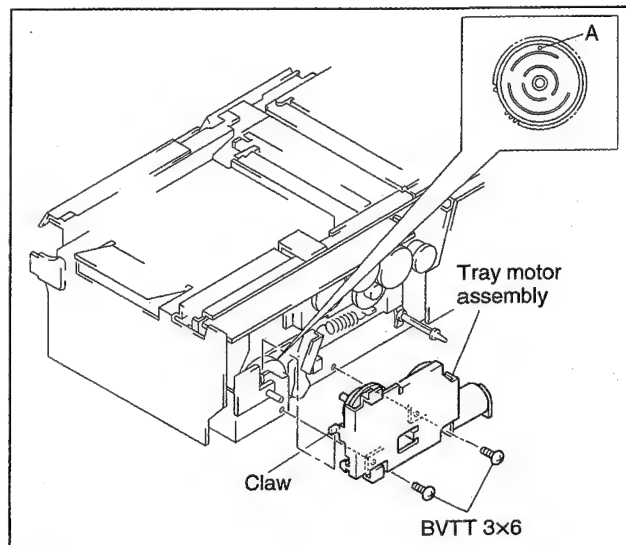


### Note

When installing the PRT-11 board, insert the board supporter to the hole A of the board.

## 2-2-10. Removal of the Tray Motor

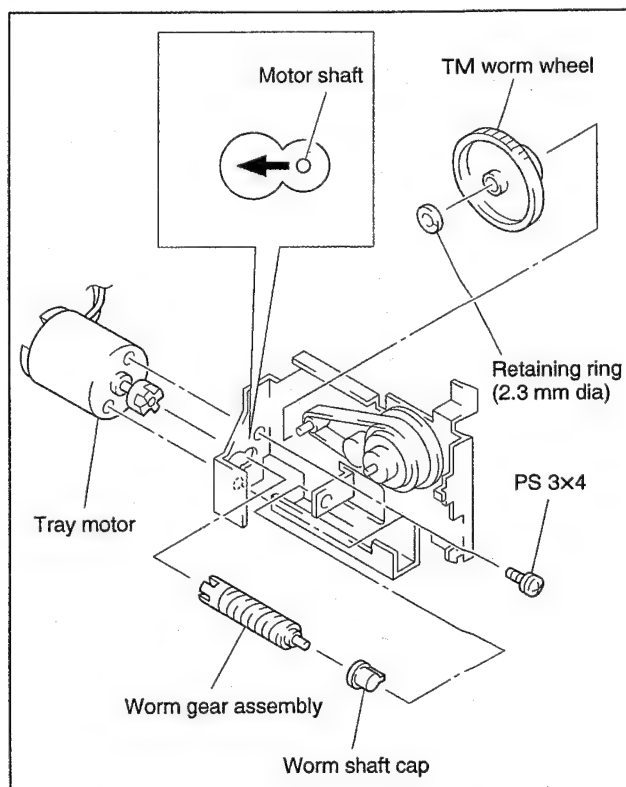
1.



### Note

When attaching tray motor cam assembly, make sure that the hole of A is placed at the top position.

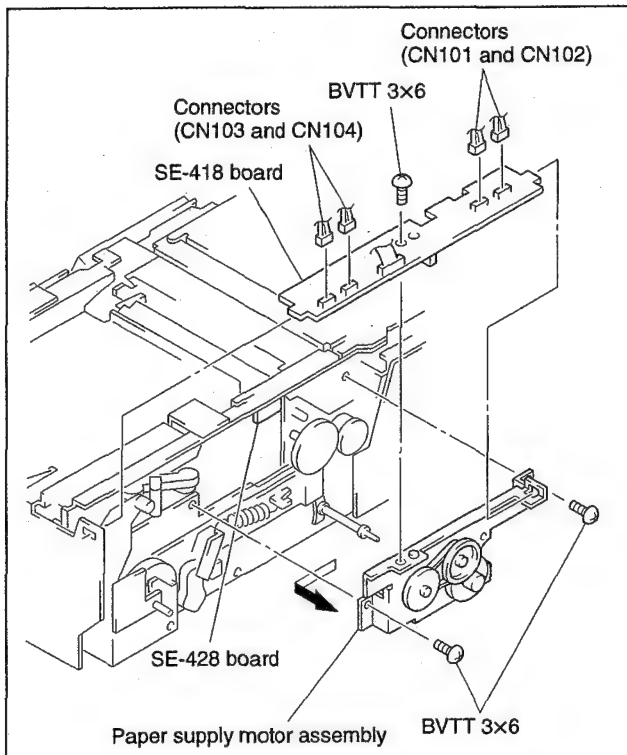
2.





## 2-2-11. Removal of the SE-418 Board and Paper Supply Motor

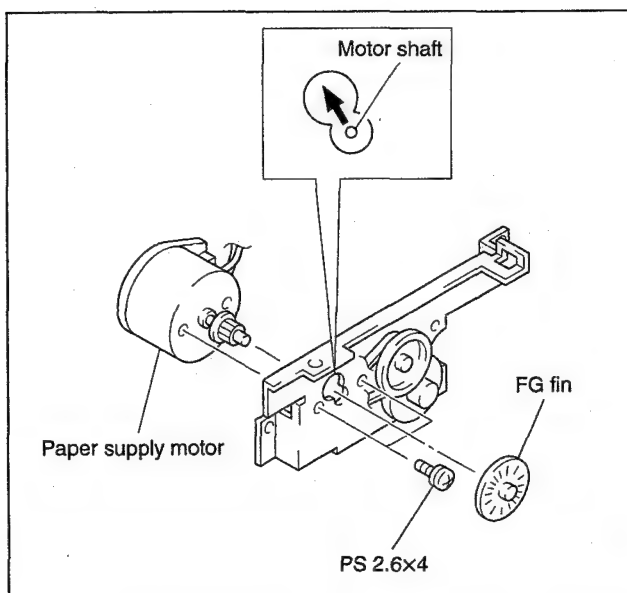
1.



### Note

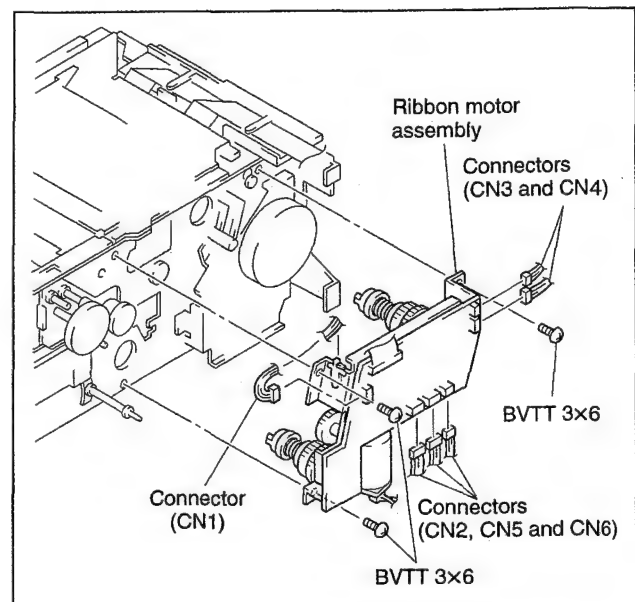
When removing the paper supply motor assembly, remove it in the direction indicated by arrow so as not to strike the SE-428 board.

2.

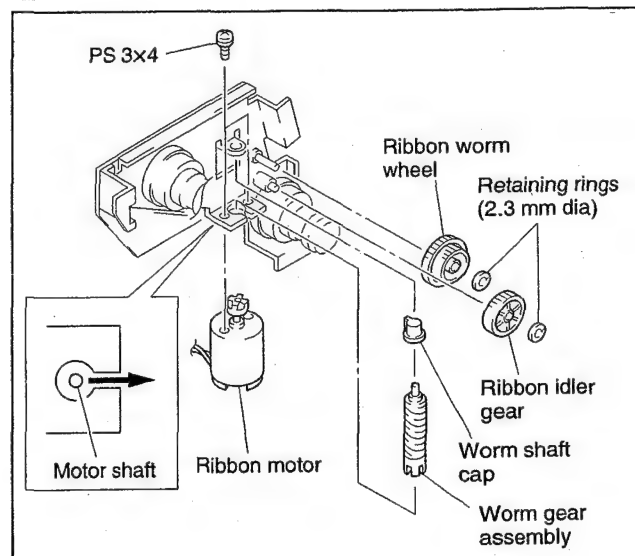


## 2-2-12. Removal of the Ribbon Motor

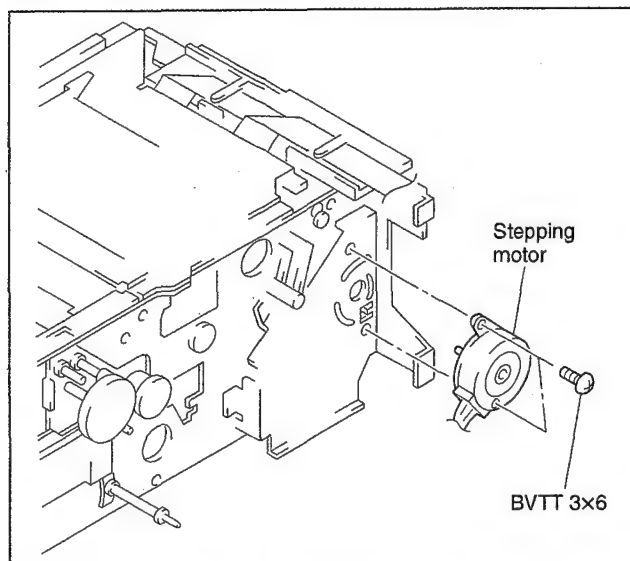
1.



2.

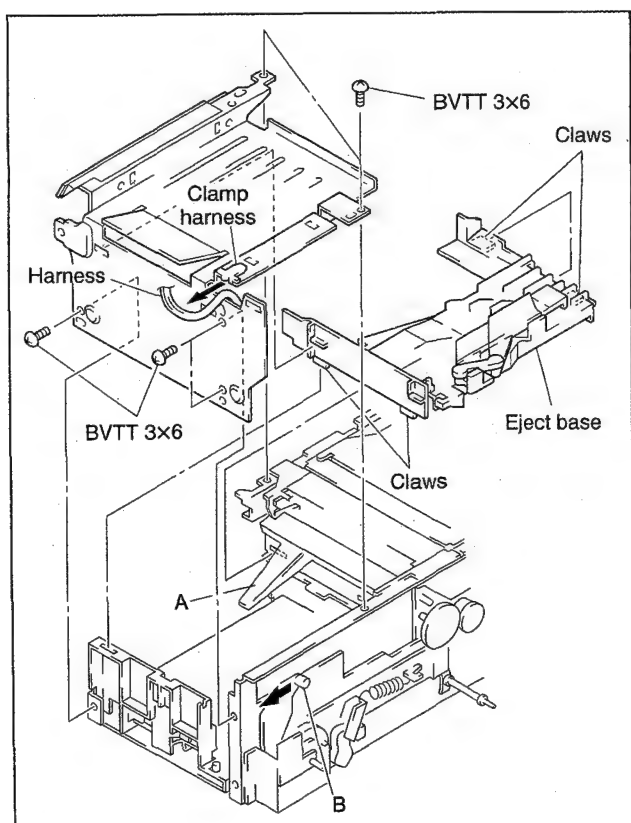


## 2-2-13. Removal of the Stepping Motor



## 2-2-14. Removal of the Load Block Assembly

1.

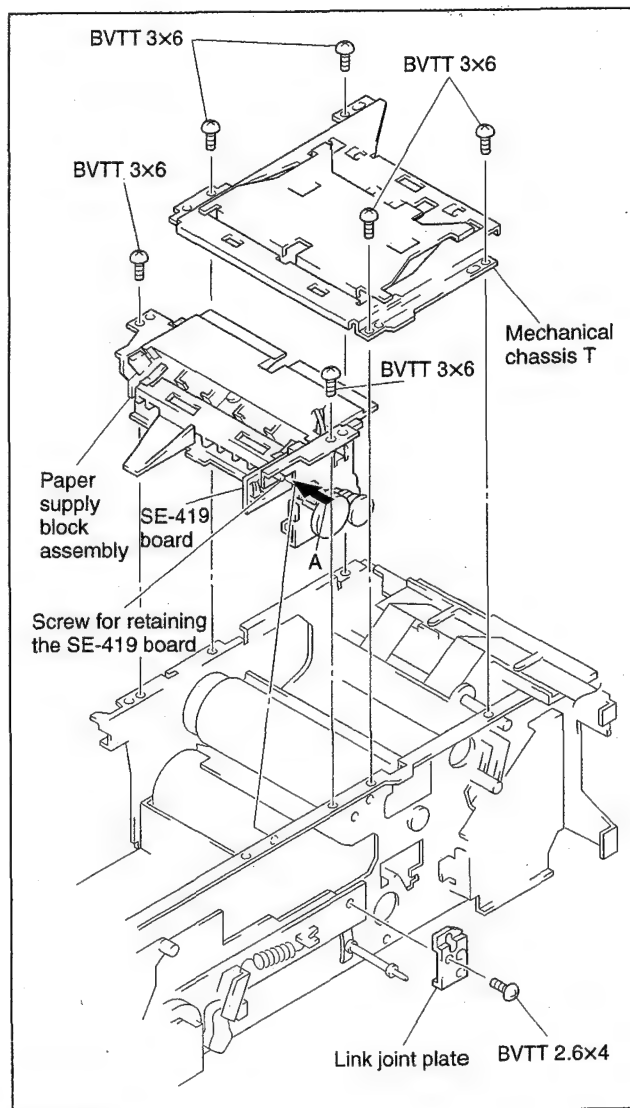


### Notes

1. When removing or attaching the eject base, perform it while portion A is lifted.
2. When attaching the eject base, push portion B in the direction shown by the arrow.

2-6

2.

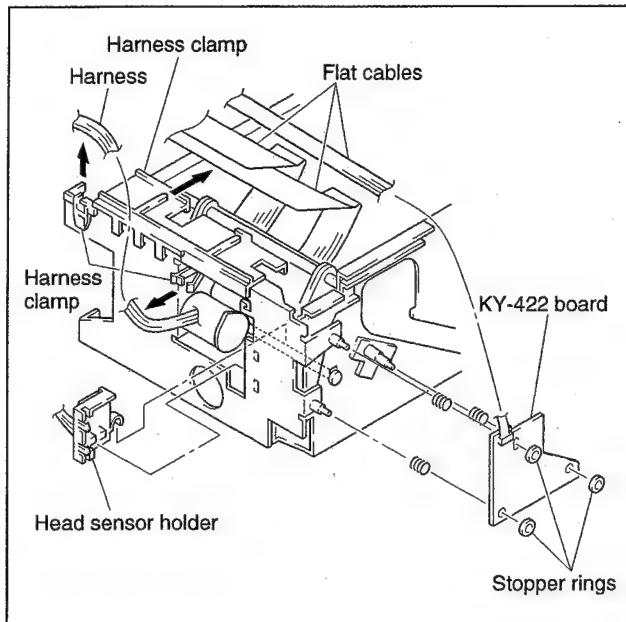


### Note

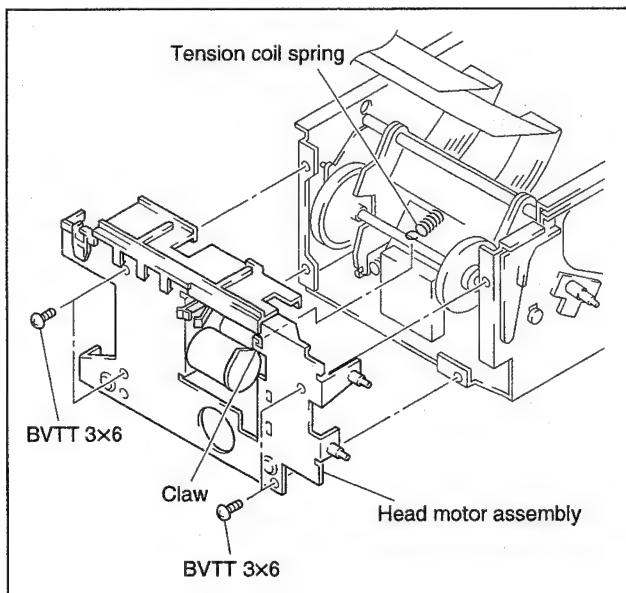
When removing paper supply block, remove the screw for retaining the SE-419 board while pushing it in the direction shown by the arrow.

## 2-2-15. Removal of the Head Motor

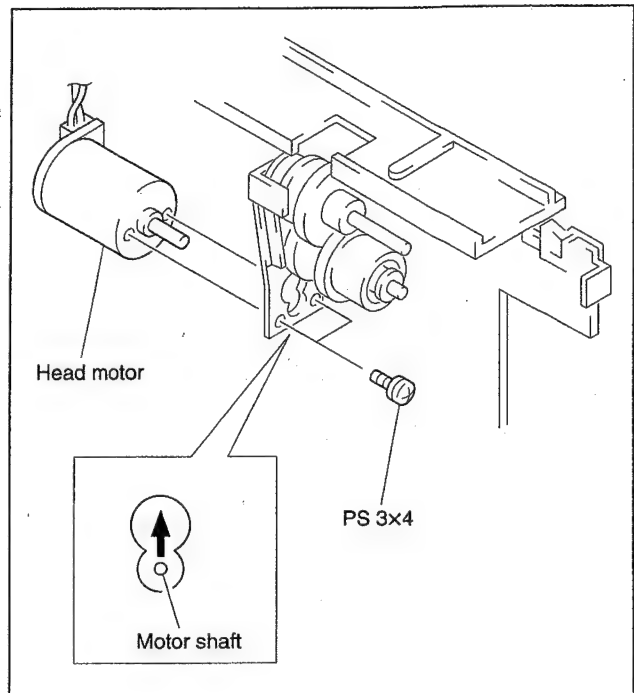
1.



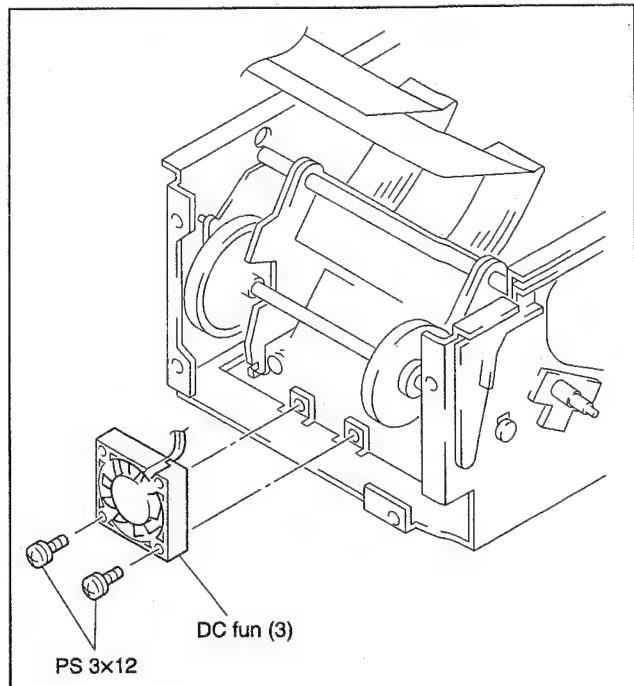
2.



3.

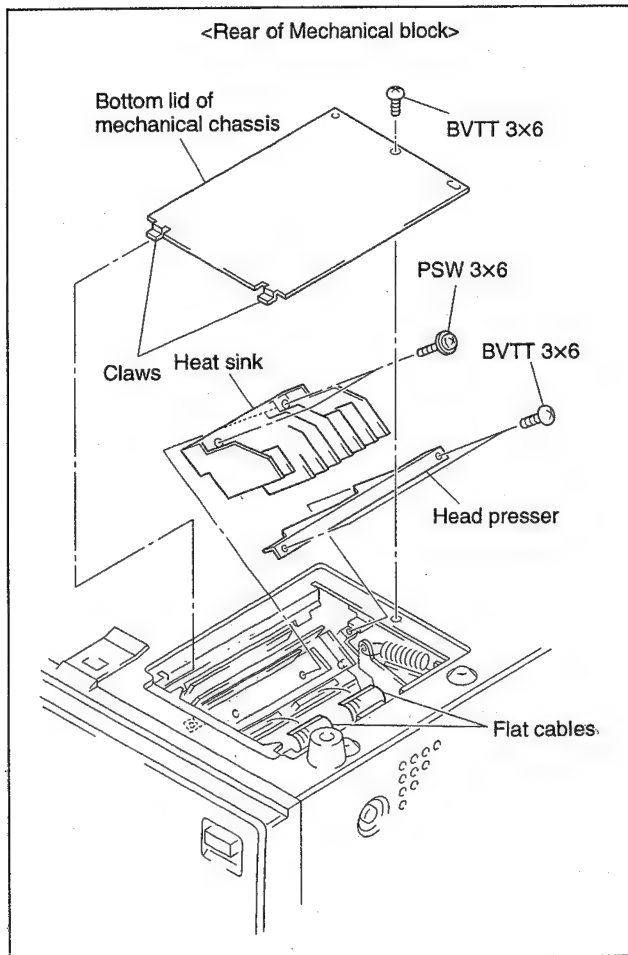


## 2-2-16. Removal of the DC Fan (3)

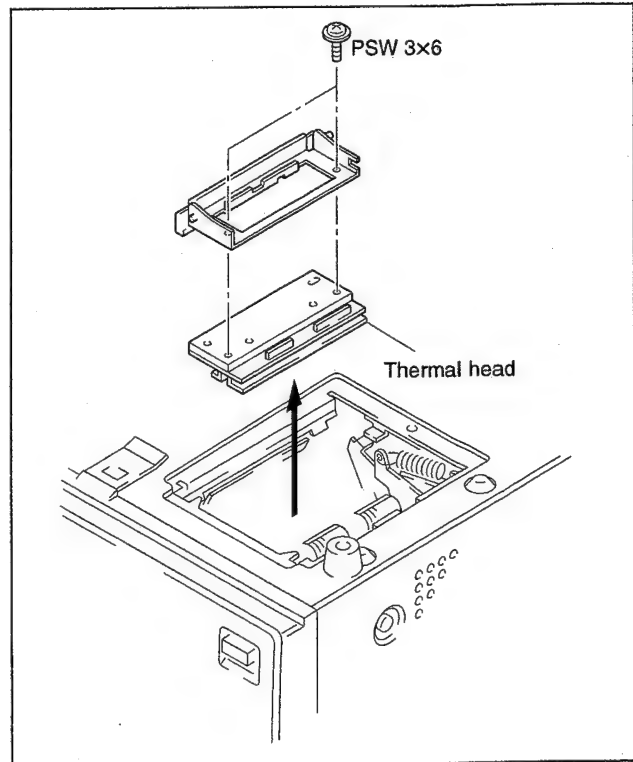


## 2-3. Replacement of Thermal Head

1.



2.



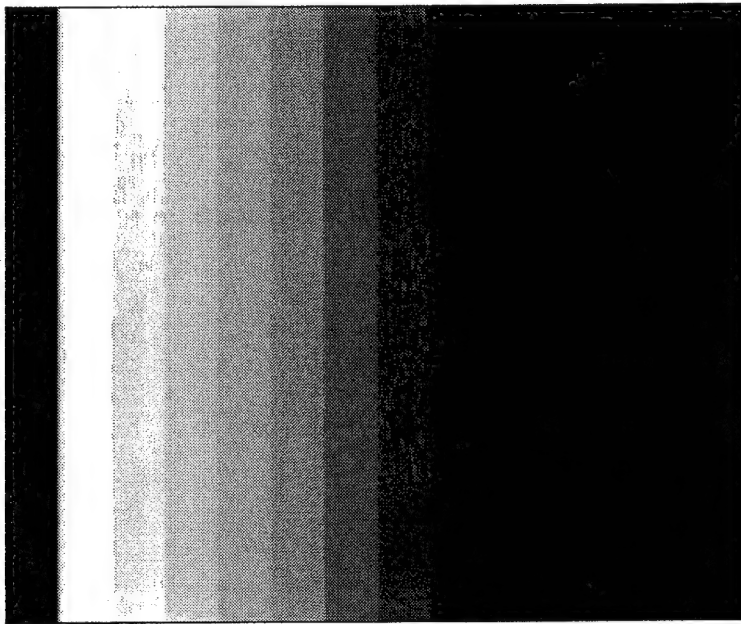
## Section 3

### Electrical Alignment

#### 3-1. Printing Built-in Test Patterns (Stair-Step)

UP-D2600S and UP-D2600 have a function to print test patterns (stair-step) by themselves.  
This is the easiest method of checking printing.

1. Set the ribbon and paper.
2. Push the switch S207 (on the IF-788 board for UP-D2600 and IF-787 board for UP-D2600S.) using like a thin pin where it is in the hole that is placed at right side of the DIP switch on the rear panel.



## 3-2. Preparations Before Adjustments

One of the following servicing tools (1) or (2) is required for adjustments.

(1) Servicing tool software

For UP-D2600S (used in combination with UP-D2550S)

CheckS25.exe (J-9000-370-A)

For UP-D2600 (used in combination with UP-D2500/D2550)

CheckD25.exe (J-9000-360-A)

(2) LED display

PDSP2113 (green) (8-749-922-58)

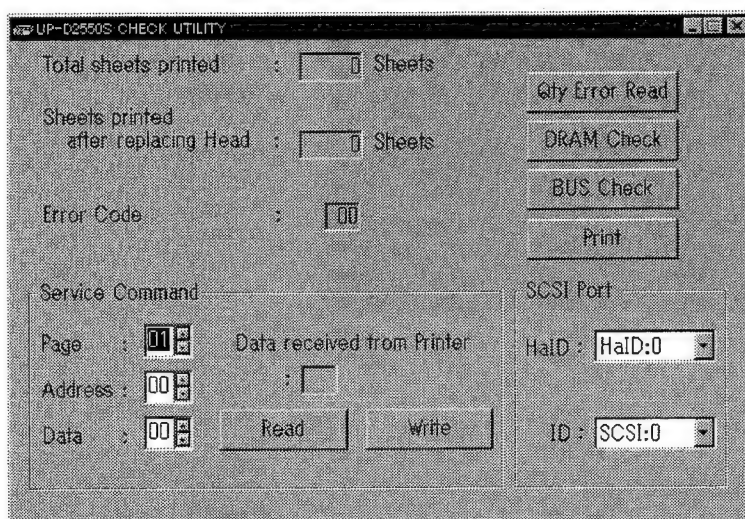
or substitute

PDSP2111 (yellow) (8-749-922-56)

PDSP2112 (red) (8-749-922-57)

### 3-2-1. How to Use UP-D2600S and UP-D2600 Servicing Tool Software

Adjustments can be performed using the Windows 95 & 98 personal computer.



The screen is used for CheckS25.exe (used in combination with UP-D2550S).

CheckD25.exe (used in combination with UP-D2500/D2550) is also almost the same in configuration as CheckS25.exe.

#### System required

##### UP-D2600S

Personal computer : Personal computer with SCSI interface

Operating system : Windows 95 & 98

Printer cable : Cable conforming to SCSI-2

##### UP-D2600

Personal computer : Personal computer having a parallel port that enables bi-directional communication

Operating system : Windows 95 & 98

Printer cable : IEEE-1284 printer cable or the equivalent

#### <Caution on CheckD25.exe> (UP-D2600 only)

- Message "Any Port's not connected" is displayed when UP-D2600 is connected to start CheckD25.exe. In this case, set OK. After CheckD25.exe is started, the UP-D2600 can be used by selecting a port.
- This service software operates using the bi-directional communication function of a parallel interface. To use the printer port of a personal computer, set it to the bi-directional communication enable mode (Compatible-Nibble or ECP mode). For the setting, refer to the Operation Manual of a personal computer. (The default value of a personal computer is usually set to the bi-directional communication enable mode.)
- In the Compatible-Nibble mode, any communication cannot be performed when a printer is in the error state. The printer operates only in the state where no error occurs (all LEDs on the front panel are off).
- In the ECP mode, a printer can be used even in the state where an error occurs. The EPC mode can be used by setting the printer port of a personal computer to EPC mode. (In some personal computers, the ECP mode may not operate. For more details, refer to the Operation Manual of a personal computer.)

#### 1. QTY Error Read

Click to display the current status of the printer.

Displays the total number of printed sheets, number of printed sheets after replacement of head, and error codes.

#### 2. DRAM Check

Self check of image an data bus is performed. (Check25.exe only)

#### 3. BUS Check

Self check of a CPU data bus is performed. (Check25.exe only)

#### 4. Print

Print button.

#### 5. Error Code

Information on mechanical deck errors

Displays the latest error information during mechanical operations. The contents correspond to the NG\_CODE1 data.

#### 6. Service Command

Writes and reads service commands to the printer.

Use the service commands to perform electrical and mechanical adjustments.

Contents of service commands are the same as using both LED display and S201 through S206 on the IF-787 and IF-788 boards.

#### Notes

- Do not perform writing operations other than the writing of the service commands described in this manual, or errors may occur in the worst case.
- Do not perform writing operation during printing.

#### 7. Port

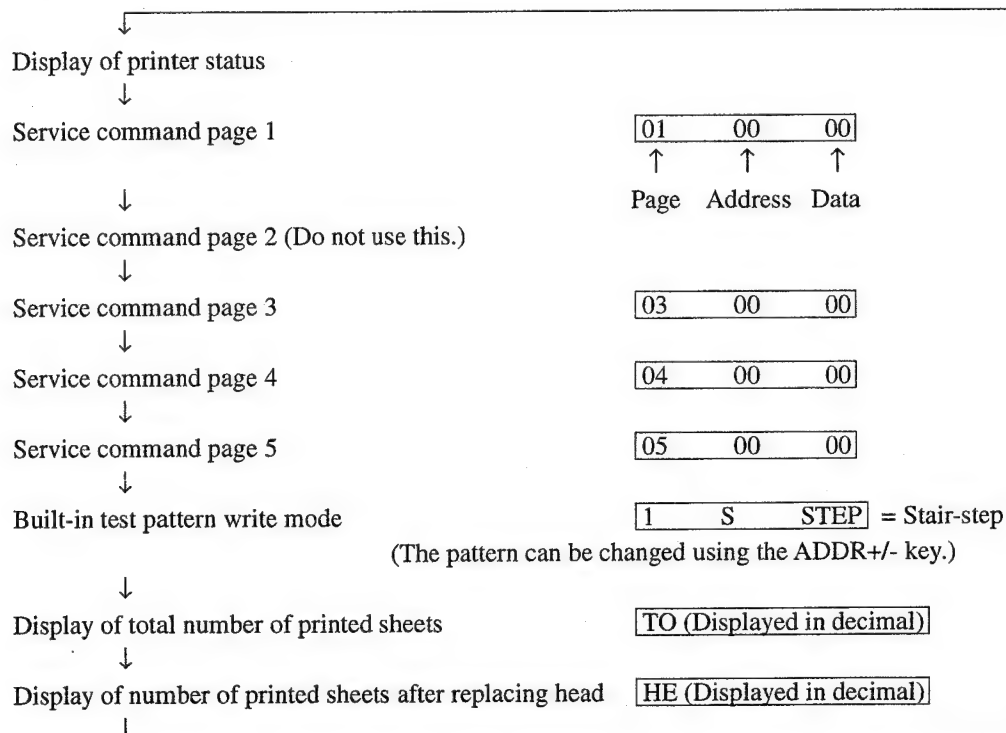
Used to set the SCSI ID used on the printer. (For CheckS25.exe)

Used to set the printer port used on the personal computer.

### 3-2-2. How to Use LED Display PDSP2113

If a personal computer is not available, service commands can be written and read using the LED display PDSP2113.

1. As the PDSP2113 (Part No. 8-749-922-58) lead pin may break, use a 28-pin IC socket (1-526-659-21, etc.) as far as possible. Be careful not to burden the board when inserting the socket.
2. With the power OFF, insert the PDSP2113 into CNI 212 on the IF-787 board for UP-D2600S or IF-788 board for UP-D2600.
3. Turn on the power. The display below then appears.  
UP-D2600S: UP-D2600S  
UP-D2600: UP-D2600
4. Use S201 through S206 on the IF-787 board for UP-D2600S or IF-788 board for UP-D2600.
  - (1) PAGE S201: Used for switching pages. The page changes with each press.
  - (2) ADDR- S202: Decrease the address.  
ADDR+ S203: Increase the address.



- (3) DATA- S204: Decrease the data.  
DATA+ S205: Increase the data.
- (4) EXEC S206: Execute. Used to write the command.

#### Note

Do not perform writing operations other than the writing of service commands described in this manual, or errors may occur in the worst case.



# List of Service Commands

PAGE	ADDRESS	Function	R/W	Remarks
1	01	ROM version	R	
1	03	Key code reading	R	
1	06	Reception value at E0	R	
1	09	Ribbon type	R	Valid after finalizing ribbon code
1	0A	Ribbon remainder	R	Valid after finalizing ribbon code
1	0B	Head temperature	R	
1	17	NG data after bus check	R	1 : Memory control 2 : Pallet 3 : EEPROM
1	18	Reception value at E2	R	For mechanical adjustment purpose
1	19	Reception value at E3	R	For mechanical adjustment purpose
1	1A	Reception value at E4	R	For mechanical adjustment purpose
1	1B	Reception value at E5	R	For mechanical adjustment purpose
1	26	sensor 0 (Ribbon cd0 light emission level)	R	For mechanical adjustment purpose
1	27	sensor 1 (Ribbon cd0 high level)	R	For mechanical adjustment purpose
1	28	sensor 2 (Ribbon cd0 low level)	R	For mechanical adjustment purpose
1	29	sensor 3 (Ribbon cd0 threshold)	R	For mechanical adjustment purpose
1	2A	sensor 4 (Ribbon cd1 light emission level)	R	For mechanical adjustment purpose
1	2B	sensor 5 (Ribbon cd1 high level)	R	For mechanical adjustment purpose
1	2C	sensor 6 (Ribbon cd1 low level)	R	For mechanical adjustment purpose
1	2D	sensor 7 (Ribbon cd1 threshold)	R	For mechanical adjustment purpose
1	2E	sensor 8 (Barcode light emission level)	R	For mechanical adjustment purpose
1	2F	sensor 9 (Barcode high level)	R	For mechanical adjustment purpose
1	30	sensor a (Barcode low level)	R	For mechanical adjustment purpose
1	31	sensor b (Barcode threshold)	R	For mechanical adjustment purpose
1	32	sensor c (Paper Jam light emission level)	R	For mechanical adjustment purpose
1	33	sensor d (Paper Jam high level)	R	For mechanical adjustment purpose
1	34	sensor e (Paper Jam low level)	R	For mechanical adjustment purpose
1	35	sensor f (Paper Jam threshold)	R	For mechanical adjustment purpose
1	3F	Head voltage adjustment command	R/W	Data is voltage setting parameter.
1	44	Division print horizontal direction print position adj.	R/W	Division print position moving by data setting
1	45	Division print vertical direction print position adj.	R/W	Division print position moving by data setting
1	4F	Sensor value request command	W	Select sensor by date (00 to 0F).
1	5C	Error history clear	W	All error history data of mechanical deck is 0.
1	5F	Error history call	W	Command for mechanical adjustment
1	81	Serial communication check	W	Command for mechanical adjustment
1	82	Sensor check 1	W	Command for mechanical adjustment
1	83	Thermistor check	W	Command for mechanical adjustment
1	84	EEPROM check	W	Command for mechanical adjustment
1	85	Thermistor EEPROM check	W	Command for mechanical adjustment
1	86	Head home check	W	Command for mechanical adjustment
1	87	Tray home check	W	Command for mechanical adjustment
1	88	Platen home check	W	Command for mechanical adjustment
1	89	FG check	W	Command for mechanical adjustment

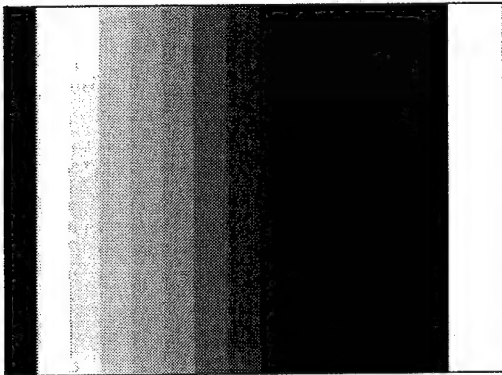
PAGE	ADDRESS	Function	R/W	Remarks
1	8A	Ribbon check (BARCODE)	W	Command for mechanical adjustment
1	8B	Ribbon check (RBN CD)	W	Command for mechanical adjustment
1	8C	Print check	W	Command for mechanical adjustment
3	05	Head voltage parameter	R	
3	07	E1 error history data 0	R	
3	0A	Total number of printed sheets (L)	R	
3	0B	Total number of printed sheets (H)	R	
3	0C	Number of printed sheets after replacement of head (L)	R	
3	0D	Number of printed sheets after replacement of head (H)	R	
4	05	Alarm LED lighting	R/W	1:Lights, 0:Off
4	06	Print LED lighting	R/W	1:Lights, 0:Off
4	0F	Remaining number of printed sheets	R	Continuous printing
4	10	Number of printed sheets set	R/W	Continuous printing
4	14	no bell	R/W	1:Bell is not rung
4	15	Paper LED lighting	R/W	1:Lights, 0:Off
4	16	Ribbon LED lighting	R/W	1:Lights, 0:Off
4	17	Ring bell once	W	
4	18	Ring bell three times	W	
4	23	Number of printed sheets 0 after replacing head	W	
4	24	Bus check	W	OK:1 bell, NG:3 bells
4	39	Reception data at E1	R	For mechanical adjustment purpose
4	40	E1 error history data 0	R	For mechanical adjustment purpose
4	41	E1 error history data 1	R	For mechanical adjustment purpose
4	42	E1 error history data 2	R	For mechanical adjustment purpose
4	43	E1 error history data 3	R	For mechanical adjustment purpose
4	44	E1 error history data 4	R	For mechanical adjustment purpose
4	45	E1 error history data 5	R	For mechanical adjustment purpose
4	46	E1 error history data 6	R	For mechanical adjustment purpose
4	47	E1 error history data 7	R	For mechanical adjustment purpose
5	14	DRAM check2	W	OK:1 bell, NG:3 bells
5	15	DRAM check	W	OK:1 bell, NG:3 bells
6		Test pattern		
6	00	Stair-step	W	
6	01	Color bar	W	
6	02	Ramp	W	
6	03	All black	W	
6	04	All gray	W	
6	05	Two-tone gray	W	
6	06	Side bar	W	
6	07	Crosshatch	W	
6	0A	Window	W	

### 3-3. Printing the Built-in Test Pattern

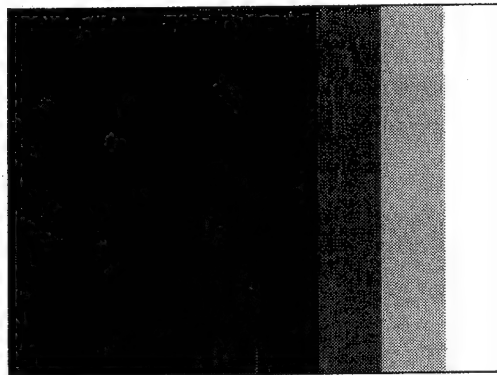
Write the 11 test patterns incorporated in the printer into the memory using [PAGE 6] of Service Commands.

1. Set to **PAGE 6** **ADDRESS 00 through 0A**.

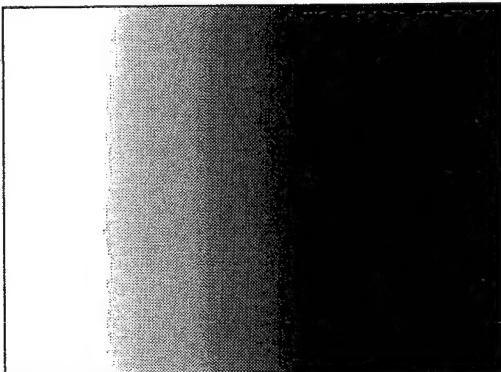
00 Stair-step



01 Color bar



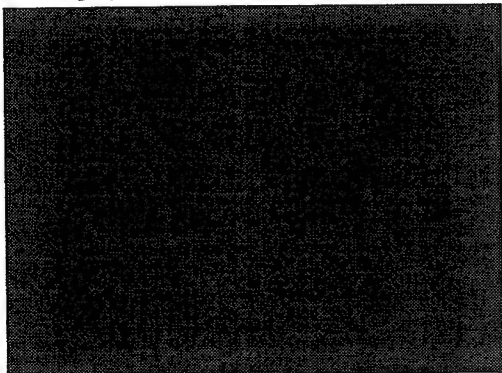
02 Ramp



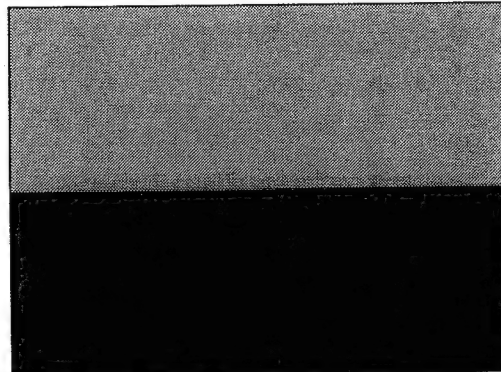
03 All black



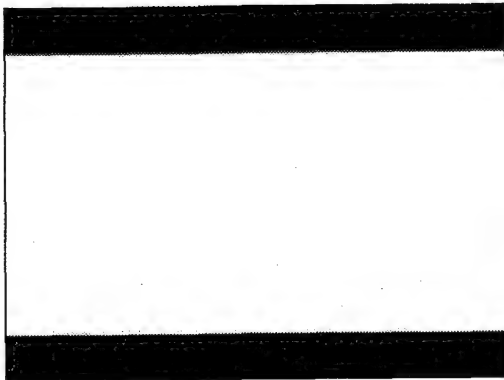
04 All gray



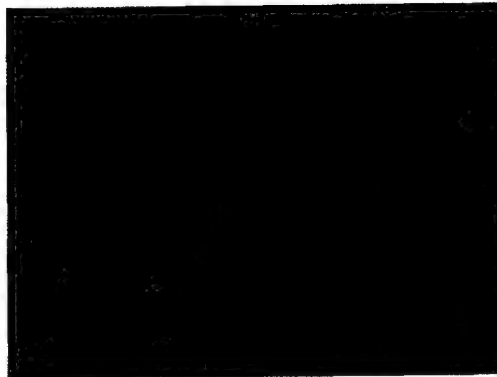
05 Two-tone gray



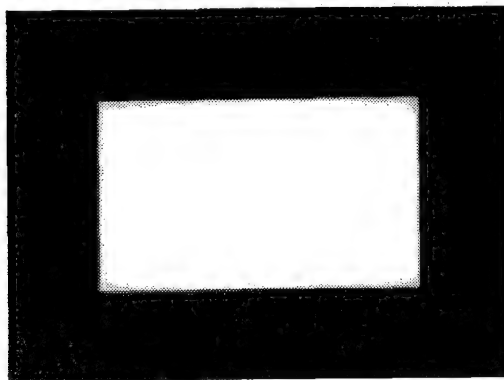
06 Side bar



07 Crosshatch



0A Window



(At the LED display, press the **PAGE** key to display the test pattern.)

2. Click **WRITE**.  
(Click **EXEC** at the LED display.)
3. Click PRINT of the servicing tool software.  
Or, the UP-D2600S and UP-D2600 can also be operated using the print key on it.

### 3-4. Adjustments When Thermal Head is Replaced

1. Print the built-in stair-step pattern before replacing the thermal head. (Refer to Section 3-1.)  
Use the print results as referred for the density adjustment.
2. Replace the thermal head.
3. After replacing, print the stair-step pattern again.  
Compare with the print results before replacement, and adjust the density if the density differs.
4. Reset the number of printed sheets after replacing the head.

#### To Adjust the Density;

1. Set the service command to **PAGE 1 ADDRESS 3F**.
2. When using the servicing tool software, click **READ** to display the current data.  
When using the LED display, the data will already be displayed.
3. When the data is increased, the density becomes thinkers.  
Adjust to the desired value, and press **WRITE** if using the servicing tool software, and **EXEC** if using the LED display.
4. Print the stair-step, and repeat the adjustment until the same density as the reference is obtained.

#### To Reset the Number of Printed Sheets After Replacement of Head

1. Set the service command to **PAGE 4 ADDRESS 23**.
2. If using the servicing tool software, press **WRITE**. If using the LED display, press **EXEC**. The data need not be set.

### 3-5. Main Service Commands (Excluding Mechanical Adjustments)

<EXEC> indicates the WRITE command.

1. Head voltage adjustment

<Contents> The head voltage increases when the DATA value is increased.

**PAGE1** **ADDRESS 3F** **DATA\*\*** R/W

2. Front LED lighting check

**PAGE4** **ADDRESS 06** R/W Print LED

**PAGE4** **ADDRESS 05** R/W Alarm LED

**PAGE4** **ADDRESS 16** R/W Ribbon LED

**PAGE4** **ADDRESS 15** R/W Paper LED

Lights with **DATA 01**

Goes off with **DATA 00**

3. Display of reminding number of printed sheets

<Contents> Displays the number of printed sheets remaining in continuous printing.

**PAGE4** **ADDRESS 0F** **DATA\*\*** Hexadecimal display R

4. Setting of number of continuous printed sheets

<Contents> Sets the number of printed sheets to be printed in continuous printing.

**PAGE4** **ADDRESS 10** **DATA\*\*** Hexadecimal display R/W

5. Bell muting

<Contents> The bell will not ring. Rings again when power is turned on and then off.

**PAGE4** **ADDRESS 14** **DATA01** R/W

6. Bell check

**PAGE4** **ADDRESS 17** [EXEC] W Bell rings once

**PAGE4** **ADDRESS 18** [EXEC] W Bell rings three times

7. Reset of number of printed sheets after replacing head

<Contents> The number of printed sheets after replacing head is set to 0.

**PAGE4** **ADDRESS 23** [EXEC] W

8. BUS check

<Contents> CPU checks self CPU bus easily by writing and reading the memory control IC 102, EEPROM IC201 and pallet IC101.

**PAGE4** **ADDRESS 24** [EXEC] W

OK : 1 bell, NG : 3 bells

NG :

Confirm the NG generation portion.

**PAGE1** **ADDRESS 17** **DATA\*\*** R

1 : memory control IC102

2 : pallet IC101

3 : EEPROM IC201

## 9. DRAM check1

<Contents> Performed if the results of printing the built-in test patterns are NG.  
This command checks IC102, IC107, IC108, and IC101 on the IF-787 board for UP-D2600S or IF-788 board for UP-D2600.

**PAGE5** **ADDRESS 15** **[EXEC]** W  
OK : 1 bell, NG : 3 bells

## DRAM check2

<Contents> This checks IC101, IC105, IC106, and IC09. This check is performed when the results of printing the built-in test patterns are NG and when DRAM check 1 is OK.

**PAGE5** **ADDRESS 14** **[EXEC]** W  
OK : 1 bell, NG : 3 bells

## 10. Division print position adjustment

<Contents> Print position during division printing is moved electrically.

H direction

**PAGE1** **ADDRESS 44** **DATA\*\*** R/W

V direction

**PAGE1** **ADDRESS 45** **DATA\*\*** R/W

## 11. Error history information

<Contents> Error history information of mechanical deck.  
Error information during mechanical operation is read out.  
The latest eight informations are kept.  
The contents correspond to the data of NG\_CODE1.

<Procedure> **PAGE1** **ADDRESS 5F** **<EXEC>** W

<Data confirmation>

<b>PAGE4</b>	<b>ADDRESS 40</b>	<b>DATA**</b>	R data 0 = Latest error information
<b>PAGE4</b>	<b>ADDRESS 41</b>	<b>DATA**</b>	R data 1
<b>PAGE4</b>	<b>ADDRESS 42</b>	<b>DATA**</b>	R data 2
<b>PAGE4</b>	<b>ADDRESS 43</b>	<b>DATA**</b>	R data 3
<b>PAGE4</b>	<b>ADDRESS 44</b>	<b>DATA**</b>	R data 4
<b>PAGE4</b>	<b>ADDRESS 45</b>	<b>DATA**</b>	R data 5
<b>PAGE4</b>	<b>ADDRESS 46</b>	<b>DATA**</b>	R data 6
<b>PAGE4</b>	<b>ADDRESS 47</b>	<b>DATA**</b>	R data 7

## 12. Clearing the error history information

<Contents> This clears the eight mechanical error history information in the past.

**PAGE1** **ADDRESS 5C** **[EXEC]** or WRITE

## 3-6. Mechanical Adjustment

### 3-6-1. Mechanical Adjustment Mode

- This mode is used to adjust the electric boards (PRT-11, SE-417 through SE-430, and SU-36 through SU-39 boards) mounted on the mechanical deck and confirm the assembling of mechanical parts.
- Perform the mechanical adjustment when the electric boards mounted on the mechanical deck or the mechanical deck parts were replaced. (Especially, various information items on the mechanical deck are stored in IC1 on the SE-417 board. Be sure to perform the whole mechanical adjustment after IC1 on the SE-417 board is replaced.)

### 3-6-2. Checking if Operations are Normal, and Automatic Adjustment

Perform mechanical adjustments using the service commands. <EXEC> indicates the WRITE command. If the result of checking is OK, the data 00H is set. There is no need to check it again.

If the result is NG, the NG command data is stored in the specified address. Check the NG command list.

PAGE4	ADDRESS 39H	Corresponds to NG_CODE1.
PAGE1	ADDRESS 18H	Corresponds to NG_CODE2.
PAGE1	ADDRESS 19H	Corresponds to NG_CODE3.
PAGE1	ADDRESS 1AH	Corresponds to NG_CODE4.
PAGE1	ADDRESS 1BH	Corresponds to NG_CODE5.
PAGE1	ADDRESS 26H through 35H	Sensor level
PAGE4	ADDRESS 40H through 47H	NG_CODE1 error history

#### 1. Serial Communication Check

- <Contents> Can communication between boards be performed?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Open the platen cover, and pull out the ribbon cartridge and paper tray.  
(2) PAGE1 ADDRESS 81H <EXEC>  
• OK : Bell rings once  
• NG : Bell does not ring
- <Data check> PAGE1 ADDRESS 18H DATA\*\*H (Refer to NG\_CODE2.)

#### 2. Sensor Check 1

- <Contents> Sensor check 1  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Open the platen cover, and pull out the ribbon cartridge and paper tray.  
(2) PAGE1 ADDRESS 82H <EXEC>  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> PAGE1 ADDRESS 18H DATA\*\*H (Refer to NG\_CODE2.)



### 3. Thermistor Check

- <Contents> Is the head set properly?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Open the platen cover, and pull out the ribbon cartridge and paper tray.  
(2) **PAGE1** **ADDRESS 83H** <EXEC>  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> **PAGE1** **ADDRESS 1AH** **DATA\*\*H** (Refer to NG\_CODE4.)

### 4. EEPROM Check

- <Contents> Is IC1 on the SE-417 board operating normally?  
Is the relay board connected?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Open the platen cover, and pull out the ribbon cartridge and paper tray.  
(2) **PAGE1** **ADDRESS 84H** <EXEC>  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> **PAGE1** **ADDRESS 1AH** **DATA\*\*H** (Refer to NG\_CODE4.)

### 5. THERM & EEPROM Check

- <Contents> Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Open the platen cover, and pull out the ribbon cartridge and paper tray.  
(2) **PAGE1** **ADDRESS 85H** <EXEC>  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> **PAGE1** **ADDRESS 1AH** **DATA\*\*H** (Refer to NG\_CODE4.)

### 6. Head Home Check

- <Contents> Is the head position sensor operating normally?  
Is the head motor operating?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Open the platen cover, and pull out the ribbon cartridge and paper tray.  
(2) **PAGE1** **ADDRESS 86H** <EXEC>  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> **PAGE4** **ADDRESS 39H** **DATA\*\*H** (Refer to NG\_CODE1.)

### 7. Tray Home Check

- <Contents> Is the tray position sensor operating normally?  
Is the tray motor operating?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Open the platen cover, and pull out the ribbon cartridge and paper tray.  
(2) **PAGE1** **ADDRESS 87H** <EXEC>  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> **PAGE4** **ADDRESS 39H** **DATA\*\*H** (Refer to NG\_CODE1.)

## 8. Platen Home Check

- <Contents> Is the platen position sensor operating normally?  
Is the platen motor operating?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Open the platen cover, and pull out the ribbon cartridge and paper tray.  
(2) **PAGE1** **ADDRESS 88H** **<EXEC>**  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> **PAGE4** **ADDRESS 39H** **DATA\*\*H** (Refer to NG\_CODE1.)

## 9. FG Sensor Check

- <Contents> Are the paper feed FG sensor and ribbon FG sensor operating normally?  
Are the paper feed motor, ribbon motor operating normally?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Open the platen cover, and pull out the ribbon cartridge and paper tray.  
(2) **PAGE1** **ADDRESS 89H** **<EXEC>**  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> **PAGE4** **ADDRESS 39H** **DATA\*\*H** (Refer to NG\_CODE1.)

## 10. Bar Code Automatic Adjustment

- <Contents> Automatic adjustment of the light emission level of the bar code sensor and threshold level.  
Is the paper feed motor operating?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Close the platen cover and insert the ribbon cartridge.  
(2) **PAGE1** **ADDRESS 8AH** **<EXEC>**  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> **PAGE1** **ADDRESS 1BH** **DATA\*\*H** (Refer to NG\_CODE5.)

## 11. Ribbon Code Automatic Adjustment

- <Contents> Automatic adjustment of light emission levels of the RBN\_CD0 sensor and RBN\_CD1 sensor, and threshold level.  
Is the ribbon motor operating?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Close the platen cover and insert the ribbon cartridge.  
(2) **PAGE1** **ADDRESS 8BH** **<EXEC>**  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> **PAGE1** **ADDRESS 1BH** **DATA\*\*H** (Refer to NG\_CODE5.)

## 12. Print Automatic Adjustment

- <Contents> Automatic adjustment of light emission level of the PP\_JAM sensor and threshold level.  
Is printing inconsistent due to the thermal head and gear?  
Is the paper pass system normal?  
Are the harness and mechanical parts assembled correctly?
- <Procedure> (1) Close the platen cover and insert the ribbon cartridge and paper tray.  
(2) 

PAGE1	ADDRESS 8CH
-------	-------------

 <EXEC>  
• OK : Bell rings once  
• NG : Bell rings three times
- <Data check> 

PAGE4	ADDRESS 39H	DATA**H
-------	-------------	---------

 (Refer to NG\_CODE1.)

## 13. Sensor Data

- <Contents> Displays the adjustment values (light emission level, high level, low level, and threshold level) of the four sensors automatically adjusted. (RBN\_CD0 sensor, RBN\_CD1 sensor, BARCODE sensor, and PP\_JAM sensor)

Sensor 0 (ribbon code sensor 0, light emission level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA00h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 26h	DATA**h
-------	-------------	---------

Sensor 1 (ribbon code sensor 0, high level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA01h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 27h	DATA**h
-------	-------------	---------

Sensor 2 (ribbon code sensor 0, low level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA02h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 28h	DATA**h
-------	-------------	---------

Sensor 3 (ribbon code sensor 0, threshold level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA03h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 29h	DATA**h
-------	-------------	---------

Sensor 4 (ribbon code sensor 1, light emission level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA04h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 2Ah	DATA**h
-------	-------------	---------

Sensor 5 (ribbon code sensor 1, high level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA05h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 2Bh	DATA**h
-------	-------------	---------

Sensor 6 (ribbon code sensor 1, low level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA06h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 2Ch	DATA**h
-------	-------------	---------

Sensor 7 (ribbon code sensor 1, threshold level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA07h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 2Dh	DATA**h
-------	-------------	---------

Sensor 8 (bar code sensor, light emission level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA08h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 2Eh	DATA**h
-------	-------------	---------

Sensor 9 (bar code sensor, high level value)

- |       |             |         |
|-------|-------------|---------|
| PAGE1 | ADDRESS 4Fh | DATA09h |
|-------|-------------|---------|

 <EXEC>  
<Data check> 

PAGE1	ADDRESS 2Fh	DATA**h
-------	-------------	---------

Sensor A (bar code sensor, low level value)

	PAGE1	ADDRESS 4Fh	DATA0Ah	<EXEC>
<Data check>	PAGE1	ADDRESS 30h	DATA**h	

Sensor B (bar code sensor, threshold level value)

	PAGE1	ADDRESS 4Fh	DATA0Bh	<EXEC>
<Data check>	PAGE1	ADDRESS 31h	DATA**h	

Sensor C (paper jamming sensor, light emission level value)

	PAGE1	ADDRESS 4Fh	DATA0Ch	<EXEC>
<Data check>	PAGE1	ADDRESS 32h	DATA**h	

Sensor D (paper jamming sensor, high level value)

	PAGE1	ADDRESS 4Fh	DATA0Dh	<EXEC>
<Data check>	PAGE1	ADDRESS 33h	DATA**h	

Sensor E (paper jamming sensor, low level value)

	PAGE1	ADDRESS 4Fh	DATA0Eh	<EXEC>
<Data check>	PAGE1	ADDRESS 34h	DATA**h	

Sensor F (paper jamming sensor, threshold level value)

	PAGE1	ADDRESS 4Fh	DATA0Fh	<EXEC>
<Data check>	PAGE1	ADDRESS 35h	DATA**h	

[Display] (Example) 84 f5 0f 80

One-byte data is displayed using a HEX code. In each sensor, data is arranged in the order of "light-emitting level value", "high-level value", "low-level value", and "threshold value" from the top.

(For the data described above, the LED voltage value is 84, and the high value of PHTR is f5. The low value of PHTR is 0f, and the threshold value is 80.)

[How to convert the data displayed using a HEX code into a sensor voltage value]

The displayed data indicates the value obtained when the voltage levels (0 through 5V) of each sensor are equally divided into 1/256. Therefore, the voltage value that the HEX code indicates can be obtained from the calculation below.

(Example) When the HEX code is h 'b3

h 'b3 = d' 179

(← Converts the hexadecimal display into a decimal display.)

$5.0 \text{ (v)} \times 179 / 256 = 3.4 \text{ (v)}$

(← Voltage value of sensor indicated by h 'b3)

## 14. Error History Information

<Contents> Mechanical deck error history information.

Reads information on errors which occurred during mechanical operations. The latest eight errors are preserved.

The contents correspond to the NG\_CODE1 data.

<Procedure> PAGE1 ADDRESS 5FH <EXEC>

<Data check>	PAGE4	ADDRESS 40H	DATA**H	Data 0=Latest error information
	PAGE4	ADDRESS 41H	DATA**H	Data 1
	PAGE4	ADDRESS 42H	DATA**H	Data 2
	PAGE4	ADDRESS 43H	DATA**H	Data 3
	PAGE4	ADDRESS 44H	DATA**H	Data 4
	PAGE4	ADDRESS 45H	DATA**H	Data 5
	PAGE4	ADDRESS 46H	DATA**H	Data 6
	PAGE4	ADDRESS 47H	DATA**H	Data 7

(Refer to NG\_CODE1.)

## NG Command List 1

A way of looking the list: Refer to the displayed NG data.

In case of h' 19 , it becomes HEAD\_FF2 FF1 TIMEOUT.

### NG\_CODE1

NG command	NG data	Contents of NG	Board/REF	Check item
h' E1	h' 11	HEAD_HOME_TIMEOUT	SE-420 board/PH201	• Connector is disconnected.
	h' 12	HEAD_PRN_FF2_TIMEOUT	SE-420 board/PH202	• Motor / sensor are defective.
	h' 13		SU-36 board	• There is no sensor sensitive by mistaken assembling the mechanism.
	h' 14	HEAD_TRAY_TIMEOUT		
	h' 15	HEAD_FF_PRN_TIMEOUT		
	h' 16	HEAD_HOME_FF1_TIMEOUT		
	h' 17	HEAD_HOME_FF2_TIMEOUT		
	h' 18	HEAD_FF_HOME_TIMEOUT		
	h' 19	HEAD_FF2_FF1_TIMEOUT		
	h' 1a			
	h' 1b	HEAD_FF1_TIMEOUT		
	h' 21	TRAY_HOME_LOAD_TIMEOUT1	SE-429 board/PH601	• Connector is disconnected.
	h' 22	TRAY_HOME_LOAD_TIMEOUT2	SE-429 board/PH602	• Motor / sensor are defective.
	h' 23	TRAY_HOME_OUT_TIMEOUT	SU-38 board	• There is no sensor sensitive by mistaken assembling the mechanism.
	h' 24	TRAY_OUT_HOME_TIMEOUT		
	h' 25	TRAY_LOAD_HOME_TIMEOUT		
	h' 26	TRAY_LOAD_HOME_TIMEOUT		
	h' 2a	TRAY_PAPER_OUT_TIMEOUT		
	h' 2b	TRAY_PAPER_IN_TIMEOUT		
	h' 33	RIBBON_Y_TIMEOUT	SE-423 board/D301, D302	• Connector is disconnected.
	h' 34	RIBBON_MCL_TIMEOUT	SE-424 board/Q350, Q351	• Motor / sensor are defective.
				• There is no sensor sensitive by mistaken assembling the mechanism
	h' 38	BARCODE_START_ERROR	SE-425 board/PH401	• Connector is disconnected.
	h' 39	BARCODE_BIT_ERROR		• Motor / sensor are defective.
				• There is no sensor sensitive by mistaken assembling the mechanism
	h' 41	PLT_HOME_TIMEOUT	SE-419 board/PH150	• Connector is disconnected.
	h' 42	OLT_HOME_ERROR	PLT_MTR	• Motor / sensor are defective.
				• There is no sensor sensitive by mistaken assembling the mechanism

NG command	NG data	Contents of NG	Board/REF	Check item
h' E1	h' 51	LOAD_TMGM_TIMEOUT	SE-427 board/PH501	• Connector is disconnected.
	h' 52	LOAD_TNG_FGOUT	SU-39 board	• Motor / sensor are defective.
	h' 53	LOAD_PAPER_TIMEOUT1		• There is no sensor sensitive by mistaken assembling the mechanism
	h' 54	LOAD_PAPER_TIMEOUT2		
	h' 58	EJECT_TMGM_TIMEOUT	SE-428 board/PH550	• Connector is disconnected, and parts are defective. • There is no sensor sensitive by mistaken assembling the mechanism
	h' 61	CHUCK_ERROR	SE-422 board/PH250	• Connector is disconnected, and parts are defective.
	h' 62	PP_JAM_ERROR		• There is no sensor sensitive by mistaken assembling the mechanism

## NG Command List 2

A way of looking the list: In case of h' 0A = 0000 1010 (Refer to HEX code converting as binary code.)

NG sensor is the first bit (PLT\_CV) and third bit (PP\_SIZE sensor)

### NG\_CODE2

NG command	NG bit	Contents of NG	Board/REF	Check item
h' E2	bit 6	LOAD_TMGM sensor	SE-427 board/PH501	• Connector is disconnected.
	bit 5	EJCT_TMGM sensor	SE-428 board/PH550	• Parts are defective.
	bit 4	RBN_CST sensor	Pushbutton SW	• The sensor becomes ON by mistaken assembling the mechanism.
	bit 3	PP_SIZE sensor	SE-426 board/PH450	
	bit 2	PAPER sensor	SE-426 board/PH451	
	bit 1	PLT_CV sensor	SE-419 board/S150	
	bit 0	KICK_OUT sensor	SE-430 board	

### NG\_CODE3

NG command	NG bit	Contents of NG	Board/REF	Check item
h' E4	bit 6	Head thermistor	Thermal head	• Connector is disconnected.
	bit 5	Head thermistor		• Thermal head
	bit 4	Room thermistor	PRT-11 board/TH1	• Parts are defective.
	bit 3	Room thermistor		
	bit 2			
	bit 1	EEPROM ERROR	SE-417 board/IC1	• Connector is disconnected.
	bit 0	EEPROM ERROR		• Parts are defective.

### NG Command List 3

A way of looking the list: In case of h' 24 = 0010 0100 (Refer to HEX code converted as binary code.)

NG sensor is the second bit (LOAD FG) and fifth bit (RIBBON CD0).

#### NG\_CODE4

NG command	NG bit	Contents of NG	Board/REF	Check item
h' E5	bit 6	RIBBON_CD1_ERROR	SE-423 board/D302 SE-424 board/Q351	<ul style="list-style-type: none"> <li>Connector is disconnected and parts are defective.</li> <li>Optical axis is out of place.</li> </ul>
	bit 5	RIBBON_CD0_ERROR	SE-423 board/D301 SE-424 board/Q350	<ul style="list-style-type: none"> <li>Connector is disconnected and parts are defective.</li> <li>Optical axis is out of place.</li> </ul>
	bit 4	BARCODE_ERROR	SE-425 board/PH401	<ul style="list-style-type: none"> <li>Connector is disconnected and parts are defective.</li> <li>Optical axis is out of place.</li> </ul>
	bit 3	PP_JAM_ERROR	SE-422 board/PH250	Connector is disconnected and parts are defective.
	bit 2	LOAD_FG_ERROR	SE-418 board/PH101	Connector is disconnected and parts are defective.
	bit 1	RIBBON_FG_ERROR	SE-417 board/PH1	Connector is disconnected and parts are defective.
	bit 0			

A way of looking the list: In case of h' 42 = 0100 0010 (Refer to HEX code converted as binary code.)

NG sensor is the first bit (LOAD TMG sensor) and sixth bit (JAM sensor).

#### NG\_CODE5

NG command	NG bit	Contents of NG	Board/REF	Check item
h' E0	bit 6	PP_JAM_ERROR	SE-422 board/PH250	There is a print paper in the mechanical deck.
	bit 5	END_OF_RIBBON	SE-423 board/D301, D302 SE-424 board/Q350, Q351	Ribbon end
	bit 4	NO_RIBBON	Pushbutton SW	There is no ribbon cartridge.
	bit 3	NO_PAPER	SE-426 board/PH451	There is no print paper.
	bit 2	REMOVE_PRINTS	SE-428 board/PH550	EJCT_TMG sensor becomes ON.
	bit 1	REMOVE_PRINTS	SE-427 board/PH501	LOAD_TMG sensor becomes ON.
	bit 0	CLOSE_COVER	SE-429 board/S150	PLATEN_COVER is opened.

#### NG\_CODE6

NG command	NG bit	Contents of NG	Board/REF	Check item
h' E3	bit 6	PLT_POS	SE-419 board/PH150	Connector is disconnected.
	bit 5	LOAD_FG	SE-418 board/PH1	Parts are defective.
	bit 4	RBN_FG	SE-417 board/PH1	There is no sensor sensitive by mistaken assembling the mechanism.
	bit 3	TRAY_POS1	SE-429 board/PH602	
	bit 2	TRAY_POS0	SE-429 board/PH601	
	bit 1	HED_POS1	SE-420 board/PH202	
	bit 0	HED_POS0	SE-420 board/PH201	





## Section 4

### Circuit Description

#### 4-1. Circuit Operations of IF-787 and IF-788 Boards

##### [Outline]

##### Main Functions of IF-787 board for UP-D2600S and IF-788 Board for UP-D2600

1. Receives commands and data from the personal computer via a SCSI interface.
2. Sends commands and data to the personal computer via a SCSI interface.
3. Receives bit map image data from the personal computer via a SCSI interface and writes in the DRAM.
4. Reads data from the DRAM during printing and sends it to the PRT-11 board via a masking table.
5. Determines key inputs, and turns on LEDs.

##### Configuration of IF-787 and IF-788 Boards

1. Oscillator circuit and reset circuit
2. SCSI interface circuit
3. DRAM and memory control circuit
4. CPU circuit
5. Color adjustment and masking table circuit

#### 4-1-1. Oscillator Circuit and Reset Circuit

##### Oscillator Circuit

20MHz clocks are generated by IC202 and ceramic oscillator X201.

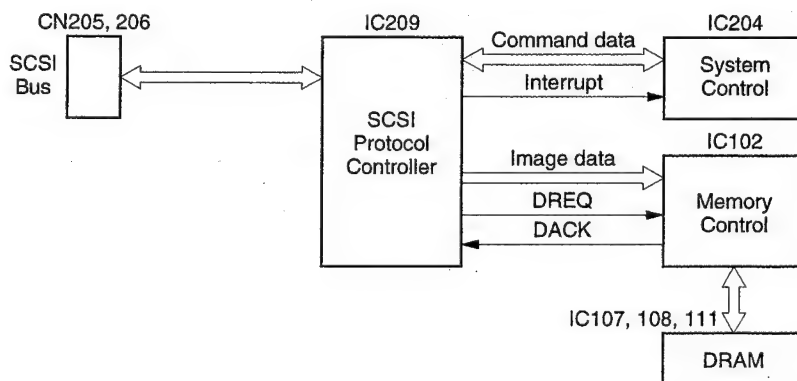
All the circuits on the IF-787 and IF-788 boards operate according to these clocks. These clocks are input to system controller CPU IC204, memory controller IC102, SCSI protocol controller (IF-787), and IEEE-1284 controller IC209 (IF-788).

##### Reset circuit

IC203 is a voltage detection IC. The +5 V power supply voltage is input to pin 2 via R228, C209 and C210. A signal maintained at the low level for about 40 msec after the power is started is output from pin 1 and used as the reset signal of system controller CPU IC204, color adjustment circuit IC101 and PRT-11 board. Memory control gate arrays IC102 and IC209 are reset using the MEMRES signal output from pin 21 after the system control CPU (IC204) is operated.

#### 4-1-2. SCSI Interface Circuit (UP-D2600S only)

IC209 is a SCSI protocol controller IC. Phase change for communication and data sending and receiving are performed by setting from system controller IC204. It complied on SCSI-2. The input data from the host personal computer via CN205 or CN206 is input to IC209 directly. If the printer is selected as a target from the initiator, that is, host personal computer during selection phase period, IC209 activates an interrupt signal at pin 7 to inform the system controller IC204 of the request command. Receiving this interrupt signal, IC204 sets the command and data receiving and sending against IC209. In case of receiving the image data, the data is transmitted (DMA) to memory control IC102 via the DMA data bus at pin 32 through 39 of IC204 during data out phase period. The handshake is performed at DREQ (pin 52) and DACK (pin 51) of IC209. IC205 is a built-in type SCSI active terminator. This operation is decided by setting DIP switch S208.



#### [IEEE-1284 Interface] (UP-D2600 only)

The UP-D2600 adopts IEEE-1284 as an interface.

The IEEE-1284 is an expanded version of the Centronics interface used in the conventional printer ports, and offers such merits as bi-directional communication and fast transfer speed (ECP mode). The UP-D2600 is compatible with the following operations modes of the IEEE-1284.

##### Compatible mode (Host→Printer)

The communication protocol is the same as the conventional Centronics interface.

##### Nibble mode (Printer→Host)

Mode in which reverse direction communication is performed using the control lines in the Compatible mode-PE, BUSY, FAULT, and SELECT

##### ECP mode (Host↔Printer)

Be-directional communication mode with fast transfer speed

Be-directional communication is performed by using Compatible and Nibble modes as a pair.

Switching between Compatible-Nibble and ECP modes is performed by setting the BIOS of the personal computer.

Windows 95 supports all of the above modes-Compatible, Nibble, and ECP.

### **[IEEE-1284 (Bi-directional Parallel=Bi-Centronics) Interface Circuit] (UP-D2600 only)**

IC209 controls the operation modes of the IEEE-1284 interface. It performs such operations as shifting to the mode required for communication according to the setting of the register from system controller IC204 and data transmission/reception.

IC205 and IC206 is a bi-directional driver IC which conforms to the IEEE-1284 standards, while IC207 is the buffer IC of the control line.

The data input from the host computer via CN201 is inputted to IC209 via the IC205 through IC207 buffer. IC209 activates the interrupt signal (pins 1 through 3, the role differs according to the mode) for every 1 byte of data, and notifies the system controller IC204 if the data is the command data, and notifies the memory controller IC102 if the data is the image data. Upon receiving this interrupt signal, IC204 and IC102 read the data using the RD signal. IC204 also writes the data in IC209 according to the earlier mentioned interrupt signal even when sending the data from the printer to the host computer.

### **4-1-3. DRAM and Memory Control Circuit**

IC102 is a memory control gate array. Its main functions are as follows:

#### **UP-D2600S**

- Image data is written in DRAMs IC107, IC108 and IC111 by one byte to one byte should the DMA bus (pins 2 to 8 of IC102) input from IC209. The handshake with IC209 is performed at DREQ and DACK (pins 156 through 158). Receiving control line DMAEN (pin 111) from IC204, DMA transmission is performed while DMABSY (pin 115) is active.

#### **UP-D2600**

- The data bus input from IC209 is assigned to the command data and image data bus by the setting from system control CPU IC204. For the command data, the data bus is directly connected to IC204. Under control line DMAEN (pin 111) from IC204, it is set to the image data bus while DMABSY (pin 115) is active. In this case, under the interrupt operation (pins 152 to 154) from IC209, the image data is written in DRAMs IC107 and IC108 one byte at a time by external synchronization. (DMA transfer)
- During printing, the data is read one byte at a time from the DRAM IC107 and IC108 by the internal synchronization, arranged to 3 bytes for R, G, and B, and sent to the color adjustment IC. (Pins 51 through 58, 61 through 68, and 71 through 78.)
- The test pattern set for the register is written in the DRAM by the internal synchronization.
- DRAM refresh operations (RAS only refresh) are performed by the cycle set by the register.

IC110 assigns each image plane of R, G, and B to IC107, IC108, and IC111, respectively.

#### 4-1-4. CPU Circuit

IC204 is a system controller CPU and its main functions are as follows:

1. Communication with the host computer
2. Serial communication (Pins 77 through 80) with the mechanical control CPU (PRT-11 board)
3. Sets data in memory control gate array (IC102)
4. Sets data in the color palette IC101
5. Serial communication with the EEPROM (IC201)
6. Lights up LEDs.  
Print, Alarm, Ribbon and Paper
7. Determines key inputs.  
Print and Stop
8. Sounds the buzzer.
9. Selects the masking.

The program is memorized in the external ROM IC210.

CNI212 is a socket for tools. It is used for inserting the LED display for showing data during adjustments.

S201 through S207 are also keys for adjustments.

##### Address map

0000H	—	DFFFH:	Program area IC210
D000H	—	D7FFH:	LED display IC IC212 (Write only)
D800H	—	DFFFH:	DRAM write IC102 (Write only)
E000H	—	E7FFH:	Color adjustment IC
E800H	—	FFFFH:	SCSI protocol controller IC209
F000H	—	F77FH:	Memory control IC102
F780H	—	FB7FH:	Reserved
FB80H	—	FF7FH:	CPU built-in RAM
FF80H	—	FF87H:	Unused
FF88H	—	FFFFH:	CPU I/O

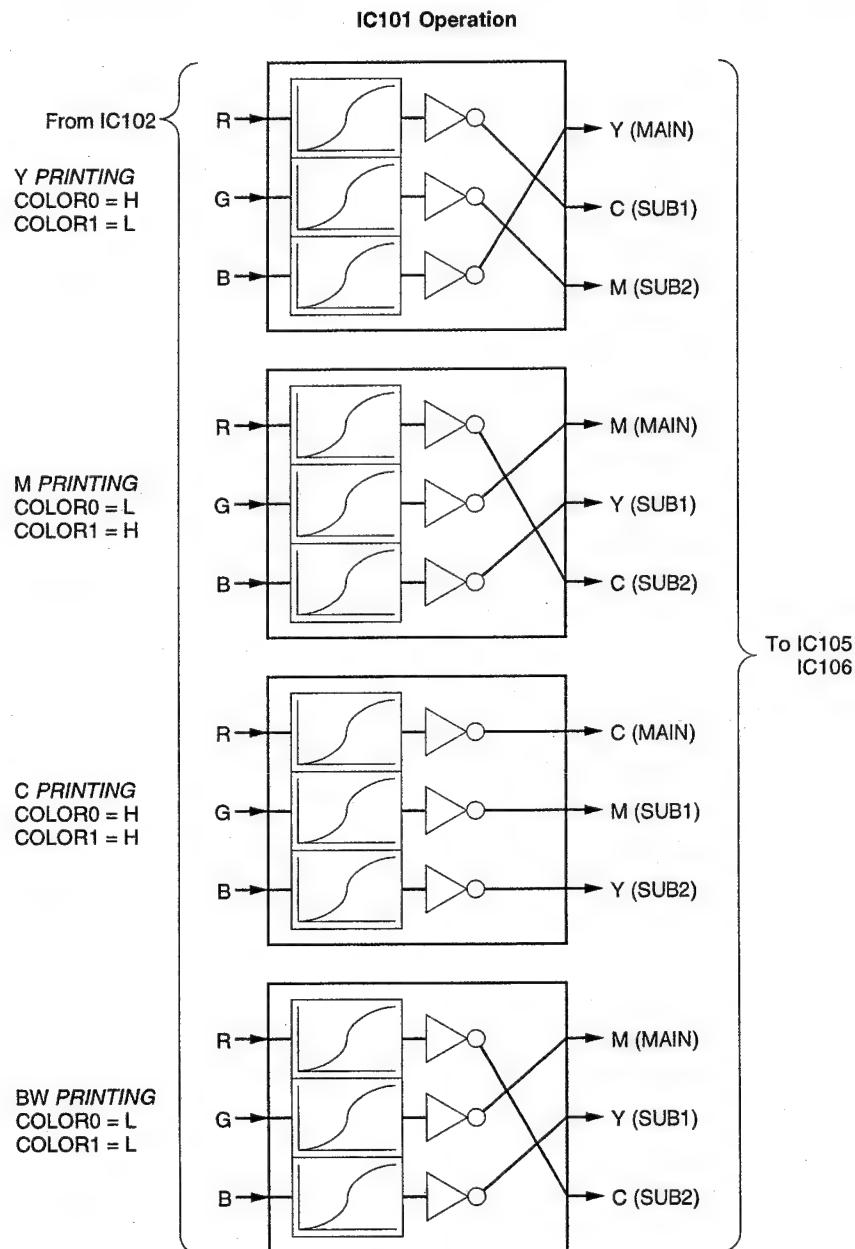
#### 4-1-5. Color Adjustment and Masking Table Circuit

IC101 is a color adjustment IC.

During the printing of Y, M, and C, it performs color rotation and RGB-YMC conversion of the printed data.

It also performs color adjustment using the look-up table memory.

The table data is memorized by the CPU program ROM. The following shows the data flow.

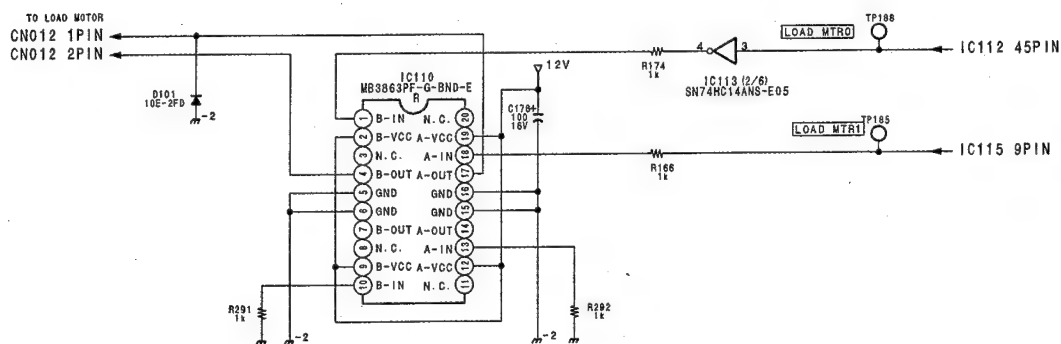


IC105 and IC106 are masking ROMs based on a two ROM data conversion system. They correct the deviation in the ideal color reproduction and color of the print.



### 4-2-3. Paper Supply Motor Drive Circuit

The paper feed motor is PWM-driven using a PWM output signal from pin 46 of IC112 (CPU).



#### 4-2-4. Head Motor and Tray Motor Drive Circuits

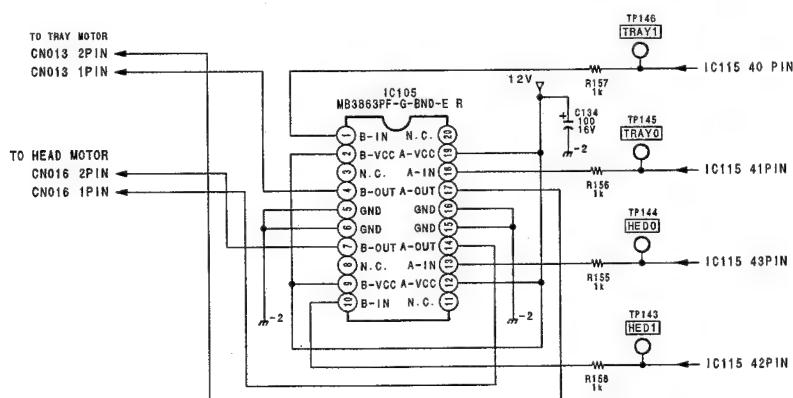
The control signal from  $\left\{ \begin{array}{l} \text{pins 42 and 43 of IC115 ( parallel port) head motor} \\ \text{pins 40 and 41 of IC115 ( parallel port) tray motor} \end{array} \right.$

is input to } the pins 10 and 13 of IC105 head motor .  
                  } pins 1 and 18 of IC105 tray motor .

The motor is driven by the voltage output from  $\left. \begin{array}{l} \text{pins 7 and 14 head motor.} \\ \text{pins 4 and 17 tray motor.} \end{array} \right\}$

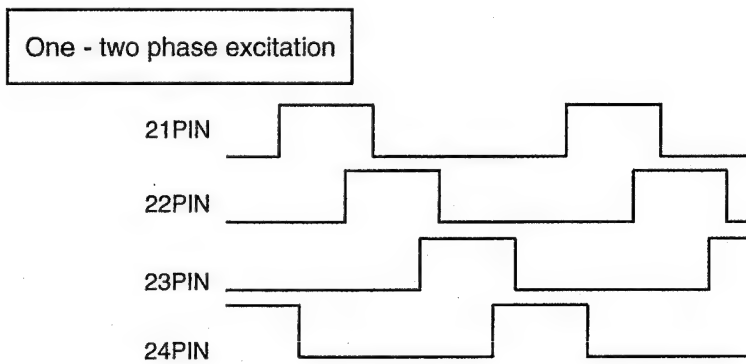
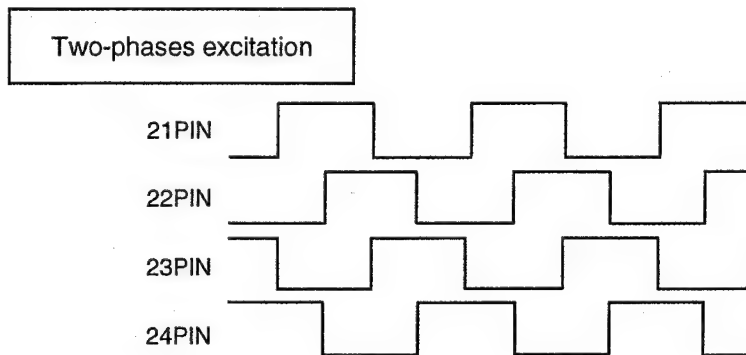
The up, down, and brake operations are performed through the following combination.

	Pins 40 and 42 of IC115	Pins 41 and 43 of IC115
Up	H	L
Down	L	H
Brake	H	H
Others	L	L



#### 4-2-5. Platen Motor Drive Circuit

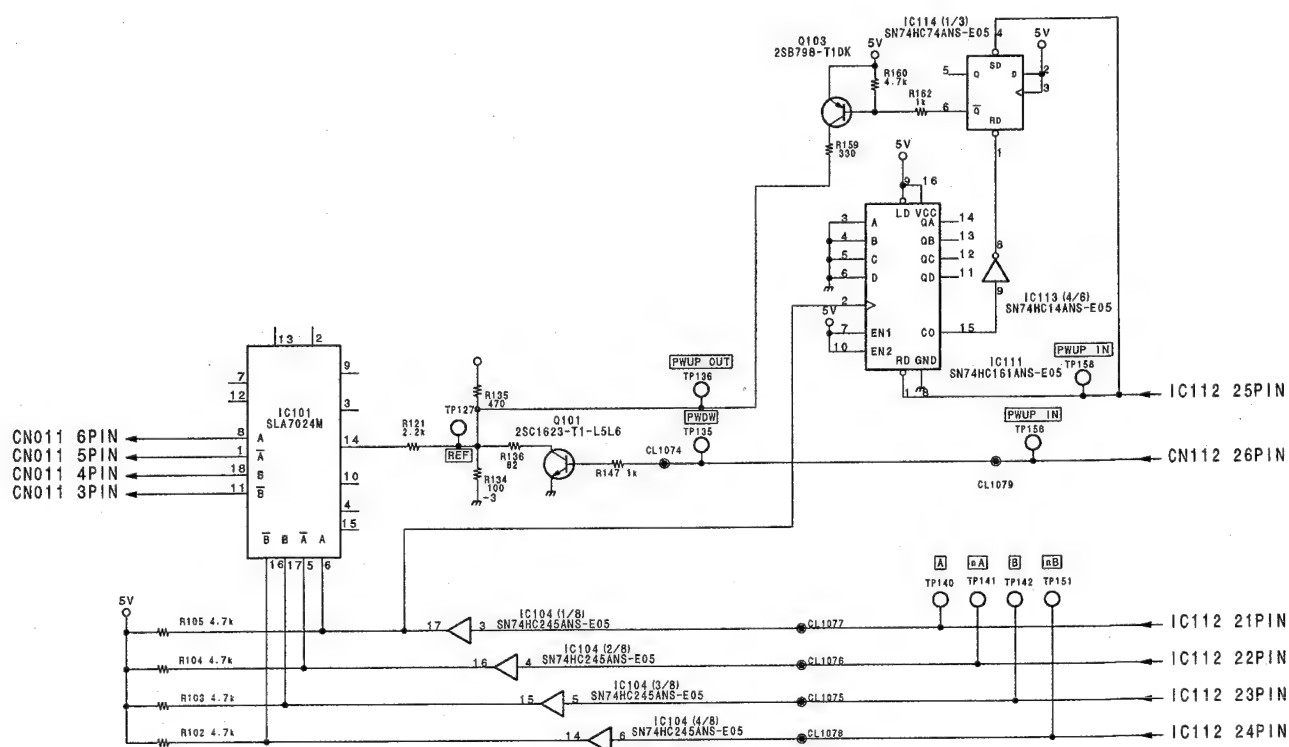
The platen is driven by a stepping motor via the belt. There are two stepping motor excitation systems, two phase and one- two phase excitation. Each phase (A, A, B, and B) control signal is output from pins 21 through 24 of IC112 (CPU). The control signal is input to the pins 6, 5, 17 and 16 of IC101 as active L via buffer IC104. The stepping motor is then driven by chopper driving.





The output current value of IC101 is changed by the control signal at pins 25 and 26 of IC112 (CPU) and the torque of the stepping motor is selected.

	Pin 25 of IC112	Pin 26 of IC112	Output current value
Normal	H	L	530 mA
Power up	L	L	840 mA
Power down	H	H	270 mA



## 4-2-6. Sensor Detection Circuit

- Platen position sensor
- Platen cover sensor
- Head position sensor
- Ribbon cassette sensor
- Paper jamming sensor
- Ribbon code sensor
- Bar code sensor
- Paper size sensor
- Paper sensor
- Paper supply timing sensor
- Eject paper timing sensor
- Tray position sensor
- Paper ejector sensor
- Ribbon FG sensor
- Paper supply FG sensor

The following sensors are perform an A/D conversion input.

- Ribbon code sensor
- Paper jamming sensor
- Bar code sensor

These threshold levels are successively changed. The threshold level is fetched from E<sup>2</sup>PROM when the power is turned ON. After print is ended and the bar code is read, the suitable setting value is calculated and is written in the E<sup>2</sup>PROM.

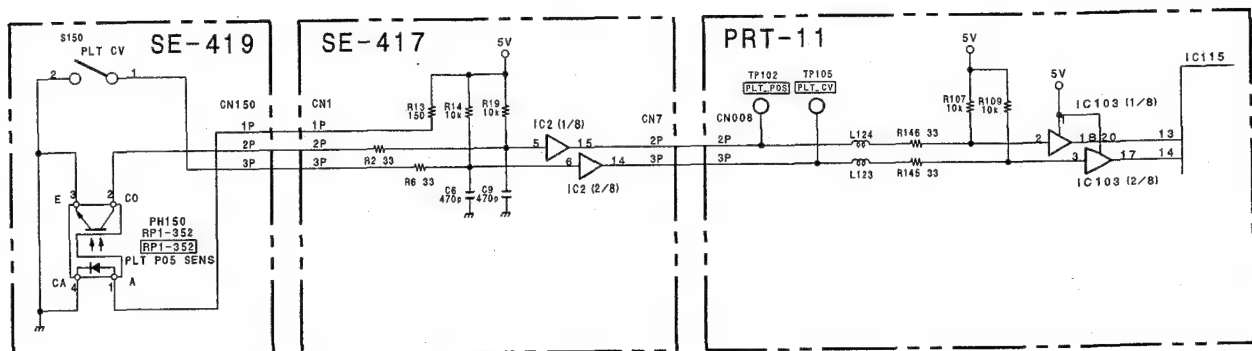
(The level can be ensured in the mechanical tool mode.)

### 1. Platen position sensor

Route : SE-419 to SE-417 to PRT-11  
 TP : PRT-11 board TP102  
 Function : Home position distinction of platen  
 Level : H ....Home position  
           L ....Except home position

### 2. Platen cover sensor

Route : SE-419 to SE-417 to PRT-11  
 TP : PRT-11 board TP105  
 Function : Distinction whether platen cover is opened or not  
 Level : H ....Cover is opened.  
           L ....Cover is closed.



### 3. Head position sensor

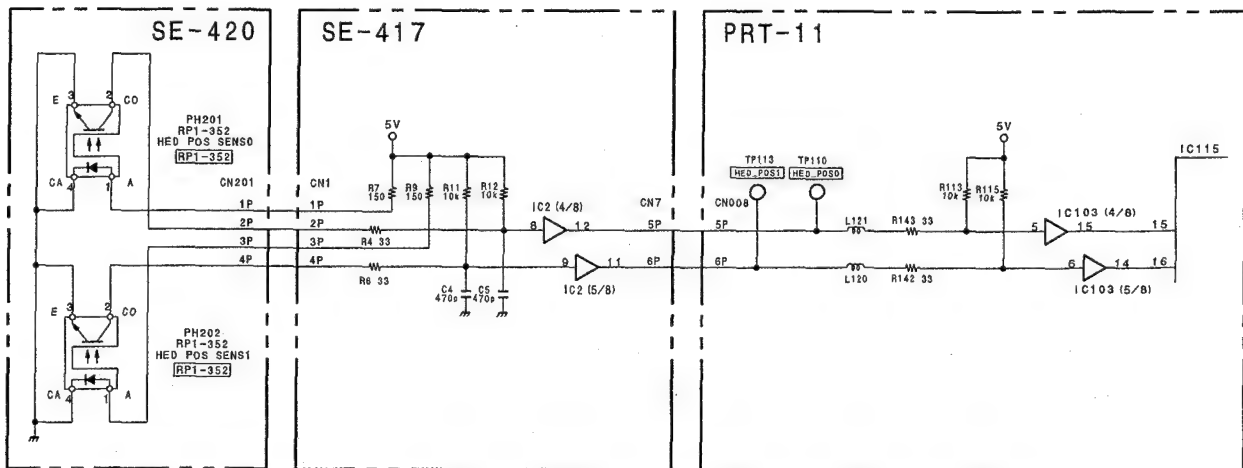
Route : SE-420 to SE-417 to PRT-11

TP : PRT-11 board TP110(HED\_POS 0),TP113(HED\_POS 1)

Function : Distinction of thermal head position

Level :

	HED_POS 0	HED_POS 1
Indefinite	H	H
FF1 position	H → L	H
FF2 position	L → H	H
Print position	H	L
Home position	L	L



### 4. Ribbon cassette sensor

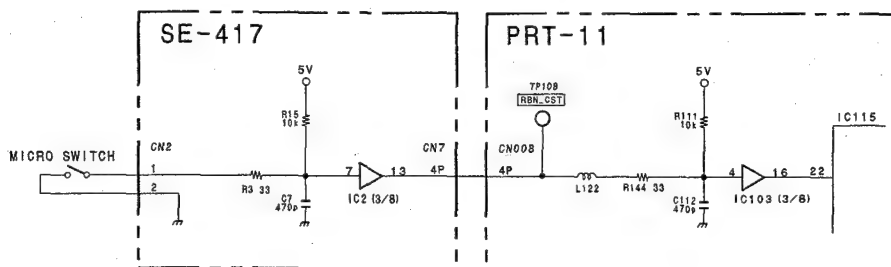
Route : Microswitch to SE-417 to PRT-11

TP : PRT-11 board TP108

Function : Distinction whether the ribbon cassette is inserted into the unit or not.

Level : H ...The ribbon cassette is not inserted.

: L ...The ribbon cassette is inserted.



### 5. Paper jamming sensor

Route : SE-422 to SE-417 to PRT-11

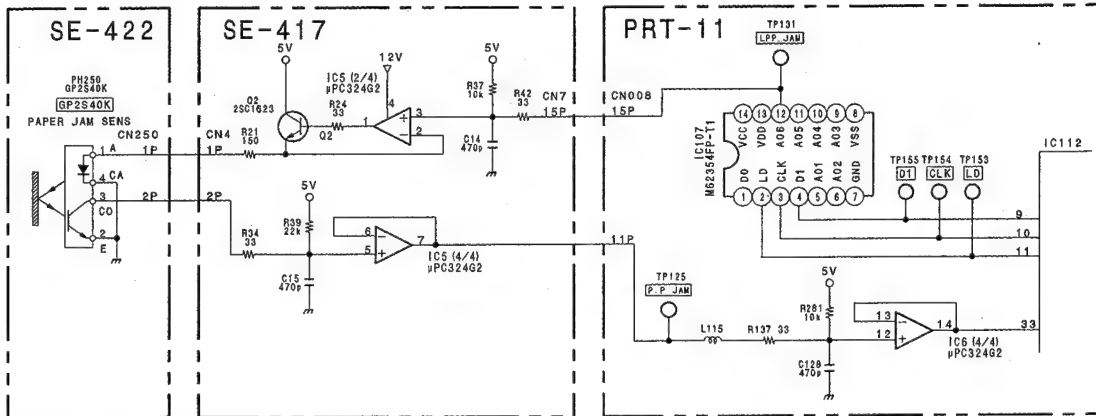
TP : PRT-11 board TP125

Function : Distinction whether the print paper is correctly supplied or not.

Distinction whether the print paper remains in the mechanism during stand-by mode.

Level : H --- There is not the print paper in the mechanism.

: L --- There is the print paper in the mechanism.



### 6. Ribbon code sensor (LED)

Route : SE-423 to SE-425 to SE-417 to PRT-11

TP : PRT-11 board TP128(LRBN\_CD 0), TP129(LRBN\_CD 1)

Function : Luminescence LED of start, end and cueing code detection marks of ribbon distinction sensor.

### 7. Ribbon code sensor(PHTR)

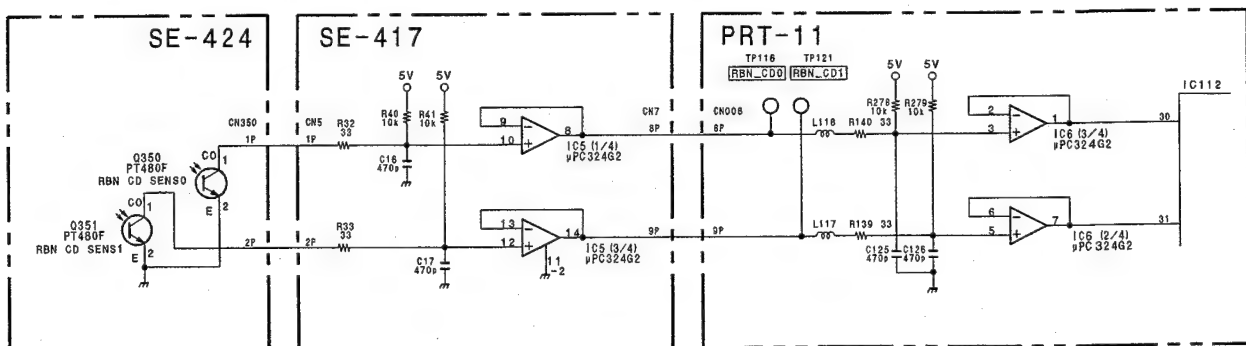
Route : SE-424 to SE-417 to PRT-11

TP : PRT-11 board TP118(RBN\_CD 0), TP121(RBN\_CD 1)

Function : Distinction of start, end and cueing code detection marks of ribbon. (Photo-transistor)

Level :

	RBN_CD 0	RBN_CD 1
Ribbon end	H	H
Cueing of YELLOW	L	H
Cueing of MAGENTA and CYAN	H	L
Others	L	L



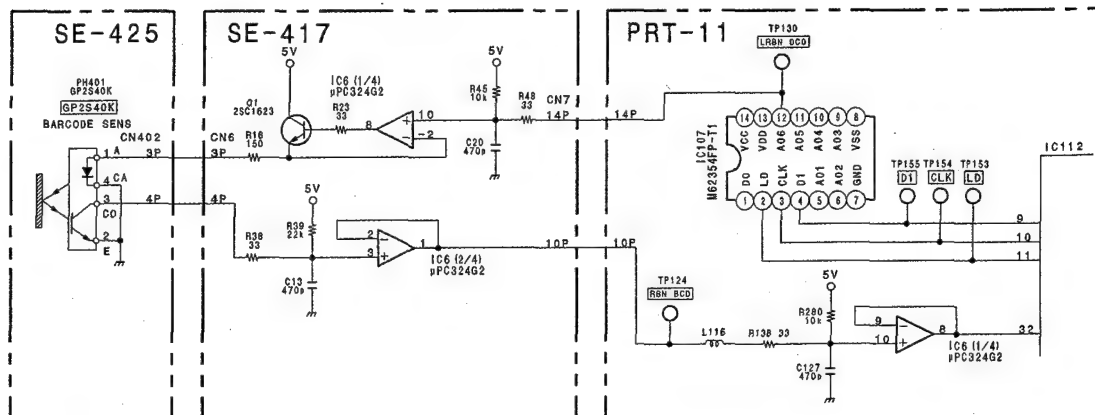
8. Bar code sensor

Route : SE-425 to SE-417 to PRT-11

TP : PRT-11 board TP124

Function : Detection of bar code ring that distinguishes the kind of ribbons.

Level : Rectangular waveform output



9. Paper size sensor

Route : SE-426 to SE-418 to PRT-11

TP : PRT-11 board TP115

Function : Distinction whether paper set is print paper or post card.

Level : H ... Post card, paper for lamination

L ... Standard, paper for sticker

10. Paper sensor

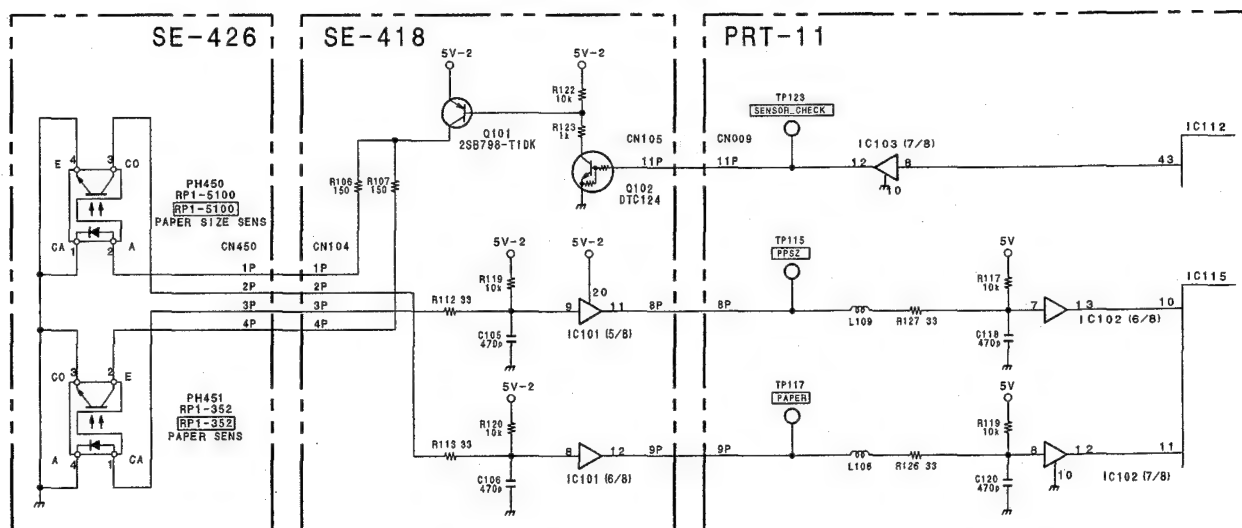
Route : SE-426 to SE-418 to PRT-11

TP : PRT-11 board TP117

Function : Distinction whether paper supply tray or print paper is set or not.

Level : H ... The print paper is set, or the paper supply tray is set, but there is not print paper.

L ... There is not print paper, and the paper supply tray is not set.



## 11. Paper supply timing sensor

Route : SE-427 to SE-418 to PRT-11

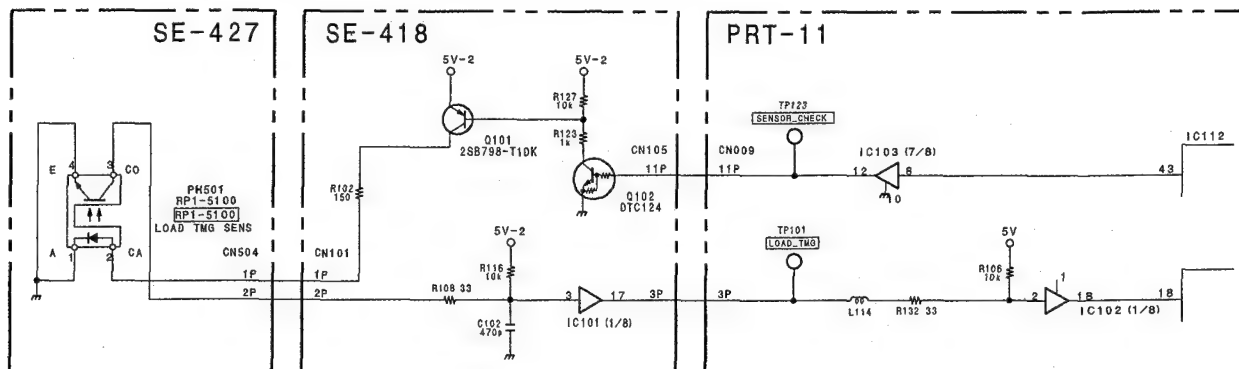
TP : PRT-11 board TP101

Function : Distinction whether print paper is correctly supplied or not.

Distinction whether print paper is jammed at paper supply entrance in the standby mode.

Level : H...There is a print paper at paper supply entrance.

L ...There is not print paper at paper supply entrance.



12. Eject paper timing sensor

Route : SE-428 to SE-418 to PRT-11

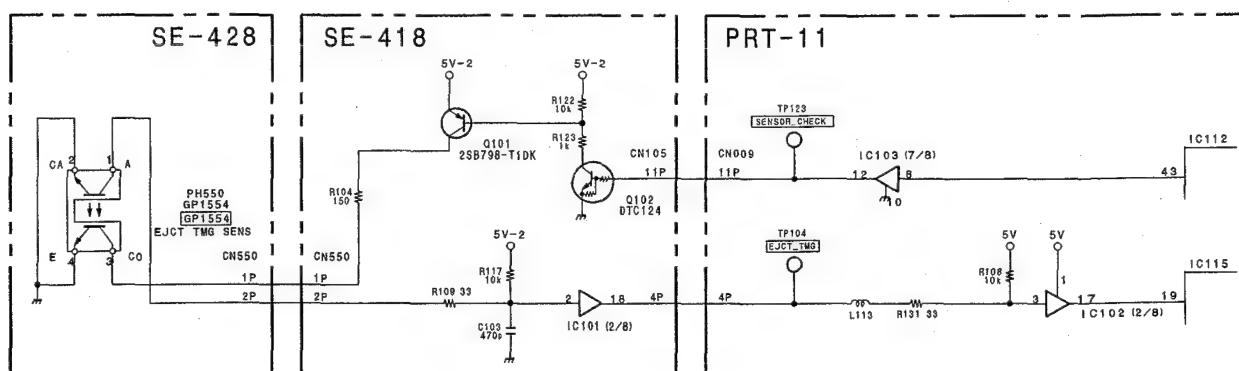
TP : PRT-11 board TP104

**Function : Mechanical timing distinction during eject paper operation**

Distinction whether the print paper is jammed at eject paper exit or not.

Level : H...There is a print paper at eject paper exit.

L ...There is not print paper at eject paper exit.



### 13. Tray position sensor

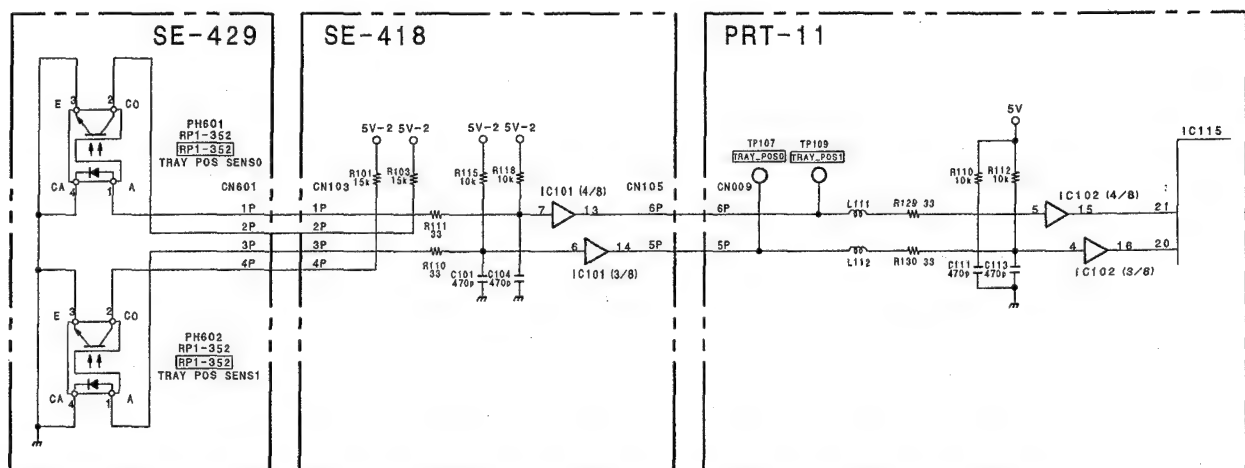
Route : SE-429 to SE-418 to PRT-11

TP : PRT-11 board TP107(TRAY\_POS 0),TP109(TRAY\_POS 1)

Function : Distinction of paper supply arm and eject paper arm positions

Level :

	TRAY_POS 0	TRAY_POS 1
Others	H	H
Paper supply position	L	H
Eject paper position	H	L
Home position	L	L



### 14. Paper ejector sensor

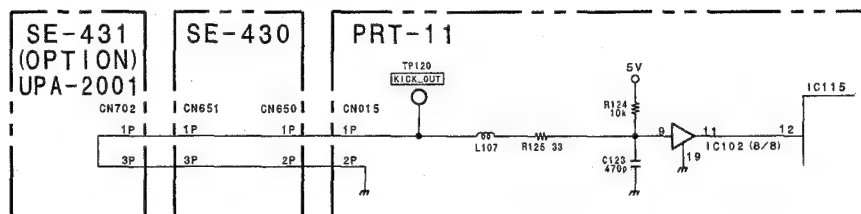
Route : PRT-11

TP : PRT-11 board TP120

Function : Distinction whether the paper ejector(option) is inserted or not.

Level : H ...The paper ejector is not set.

L ...The paper ejector is set.



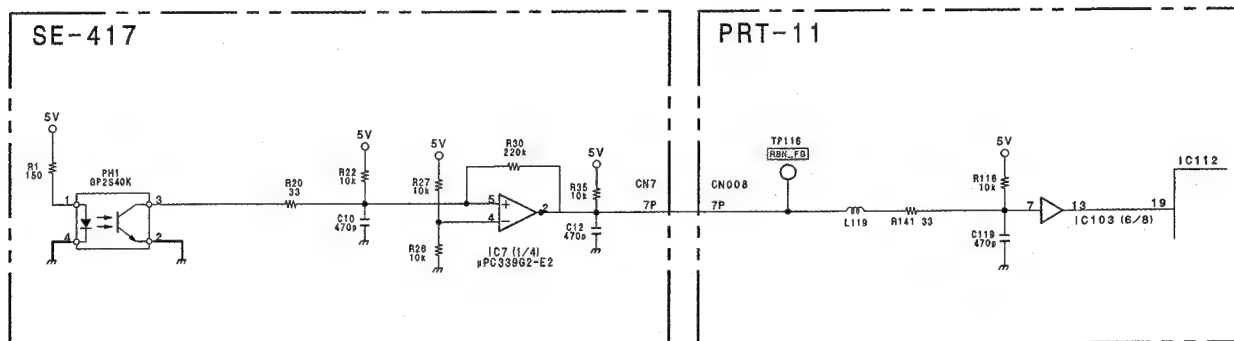
### 15. Ribbon FG sensor

Route : SE-417 to PRT-11

TP : PRT-11 board TP116

**Function** : The number of rotations on ribbon take-up side is detected.

Level : Rectangular waveform output



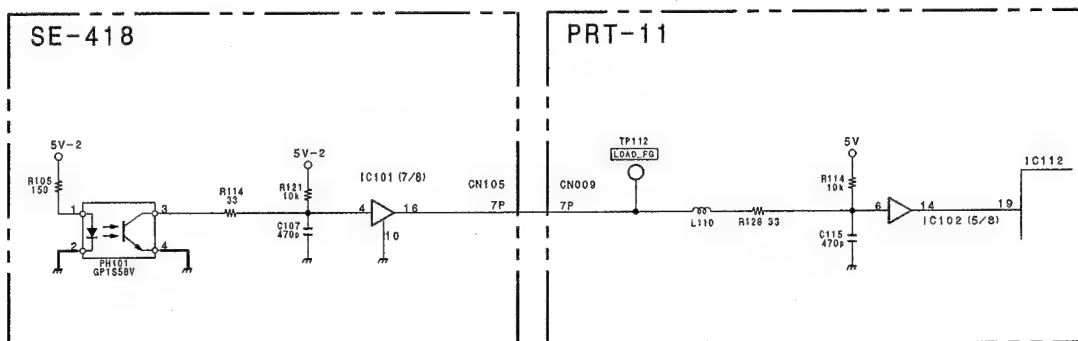
## 16. Paper supply FG sensor

Route : SE-418 to PRT-11

TP : PRT-11 board TP112

**Function** : Detection of print paper sending quantity between paper supply timing sensor and platen chuck position, and sampling FG of bar code ring.

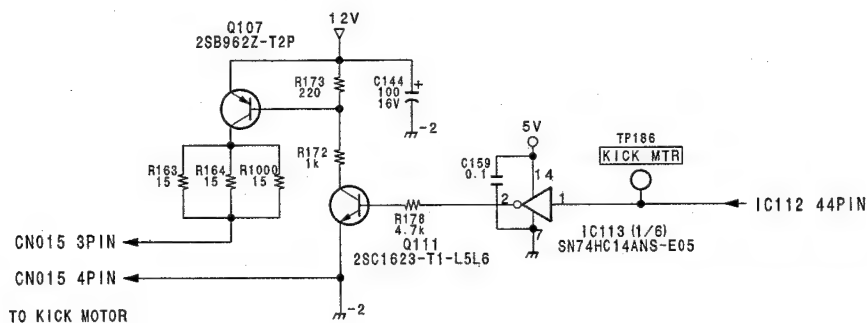
Level : Rectangular waveform output



#### 4-2-7. Paper Ejector Motor Drive Circuit

The motor of a paper ejector is driven by the control signal from pin 44 of IC112 (CPU).

It is only driven at eject paper time.





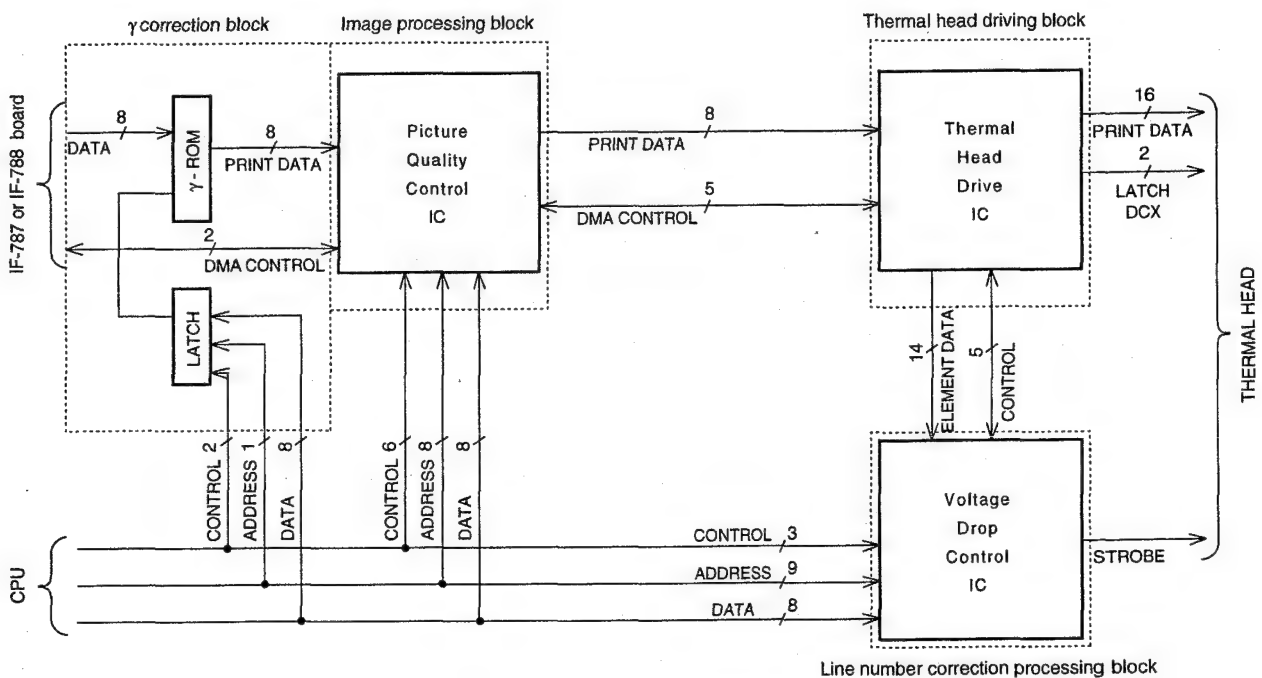
## Head Control Block

The head control block processes the parallel print data for each line from the IF-787 or IF-788 board and sends it to the thermal head for printing.

The head control block is constituted by the following five sections.

- $\gamma$  ROM that  $\gamma$  collects the parallel print data from the IF-787 or IF-788 board.
- Image processing IC (Picture Quality Control IC) that performs pattern recognition interpolation, edge emphasis, and heat accumulation correction.
- Head driving IC that PWM-converts parallel data and sends print data to the thermal head.
- Line number correction IC (Voltage drop control IC) that corrects voltage drop by common resistor of the thermal head.
- Head voltage correction circuit

The print data is received from the IF-787 or IF-788 board as parallel data for  $\gamma$  correction. Each signal processing is added by PQC IC. After that, PWM modulation is performed by head driving IC and the print data is sent to the thermal head.



## **[Each Block]**

### **$\gamma$ Correction Circuit**

The print data from the IF-787 or IF-788 board is  $\gamma$ -corrected by the data conversion table of  $\gamma$ ROM (IC206).

The address of  $\gamma$ ROM is allotted as follows, two bits are allotted for switching of each YMC color, four bits for temperature correction of the thermal head, and four bits for kinds and feeding of the ribbon.  $\gamma$  data is switched according to the switching signal from CPU (IC112).

### **PQC IC**

Edge emphasis processing

To improve definition of the image, edge emphasis is performed by using a digital filter in the horizontal and vertical directions.

Heat accumulation correction processing

The slow rising and dull operation due to bad head temperature response are corrected using a digital filter.

### **Head Driving IC**

PWM modulation processing

Eight-bit parallel data is PWM-modulated and converted into serial print data.

Separation print processing

If the print dot area of low density image portion becomes small, clearance between print lines appears. Therefore, one step gradation is divided by four for printing.

### **Line Number Correction IC**

If the exothermic resistor element connected to the thermal head increases, the composite resistance of the element decreases. Voltage drop by common resistor of a harness cannot be thus ignored. The print density becomes low. Therefore, the time turning on electricity to the head element is controlled, and print density is corrected.

### **Head Voltage Correction**

The head voltage can be increased or decreased by changing a VCONT signal. The following corrections are performed by using the A/D port output of CPU (IC112). The V CONT signal is controlled digitally by software.

Correction using thermal head temperature.

When printing with the same head voltage, there is a difference between print density due to the degree of head temperature. Therefore, the head voltage is increased or decreased by the head temperature just before printing.

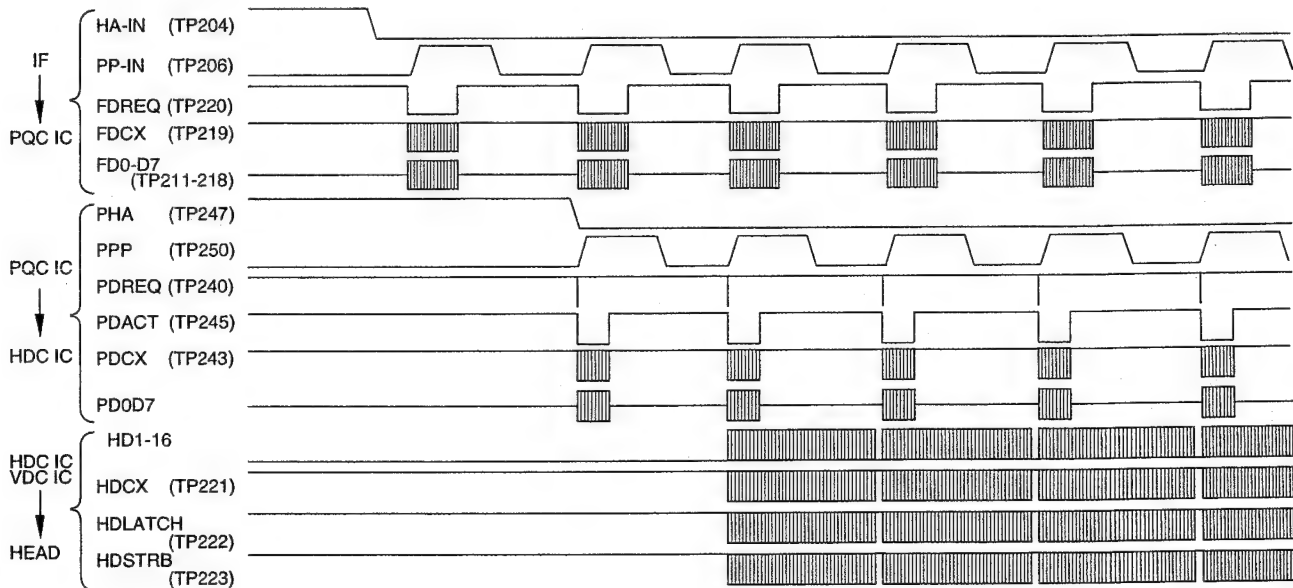
## [Input and Output Timing]

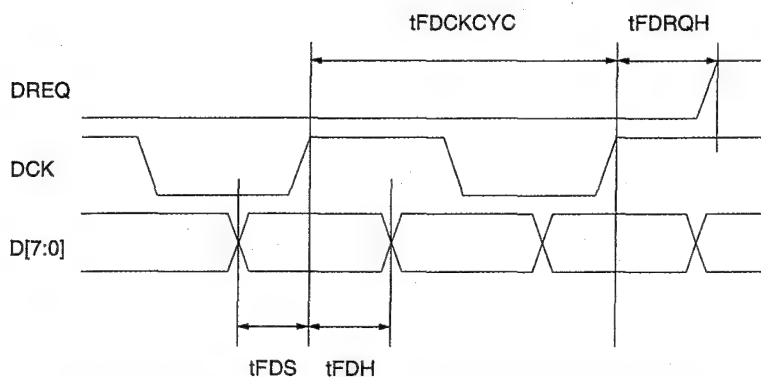
nPRINTING and nHEAD\_ACTIVE\_IN signals are enable signals of the thermal head. When both these signals are L, the thermal head enters the print enable mode. The nHEAD\_ACTIVE\_IN (P) signal is also use as the enable signal of IC207, IC208 and IC210. When this signal is "L", the IC is in the print enable mode. In this mode, when the rising edge of PRINT\_PULSE\_IN signal is input to the PQC IC (IC207), an nDREQ signal that indicates print data receive enable state is output to the IF-787 or IF-788 board, DMA transmission of first-line data is received. If the rising edge of a next PRINT\_PULSE\_IN signal is input to PQC IC, nHEAD\_ACTIVE\_P and nPRINT\_PULSE\_P signals are output to the next-stage head drive IC (IC208), the first-line data is processed the image, and the nPRINT\_DREQ signal from next-stage head drive IC is waited for DMA transmission.

The head driving IC (IC208) receives the PRINT\_PULSE\_P signal from PQC IC (IC207) and outputs an nPRINT\_DREQ signal. After that, 1-line 8-bit print data is DMA-transferred in synchronization with the PRINT\_DCK signal from PQC IC.

Taken the next PRINT\_PULSE\_P signal is input, data is transmitted to the thermal head as 8-port serial data together with a shift clock (HEAD\_CK), data latch output (HEAD\_LATCH), and strobe output (HEAD\_STRB). DMA transmission of second line data is also received in parallel.

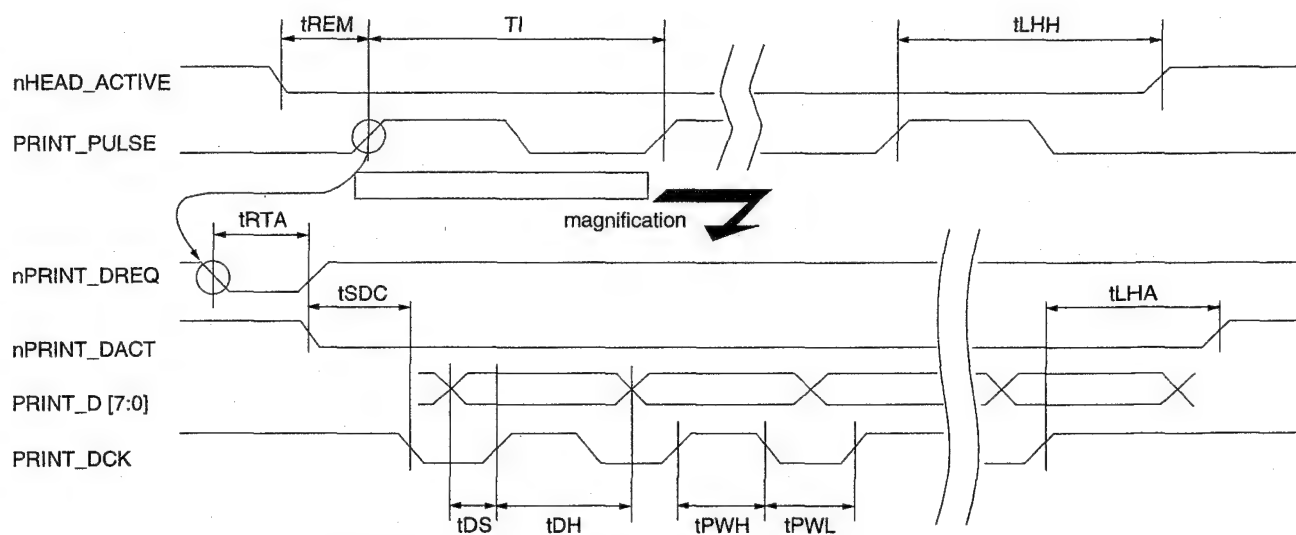
As described above, the input first line data is synchronized with the second PRINT\_PULSE\_IN signal and transmitted to head driving IC. It is output to the thermal head in synchronization with the third PRINT\_PULSE\_IN signal. The PRINT\_PULSE\_IN signal is input to PQC IC with exceeding the number of actual print lines by two.





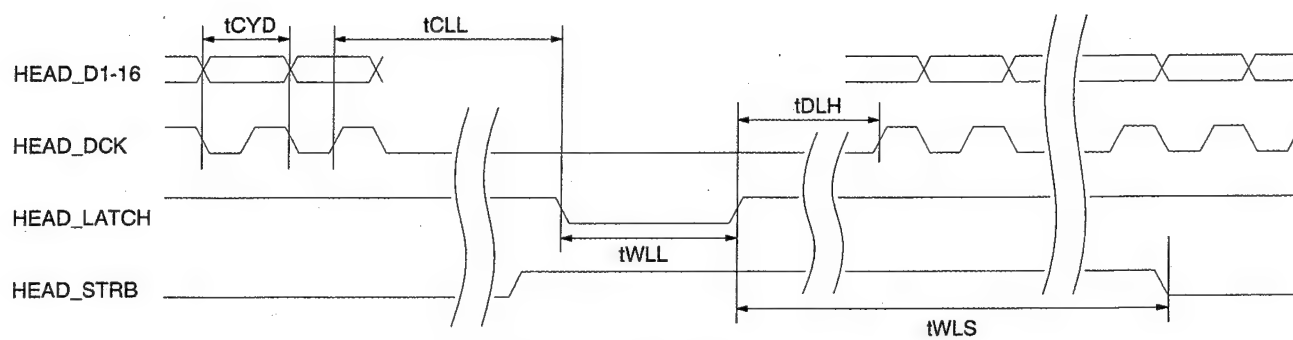
Input and output timing from IF-787 and IF-788 boards to PQC IC

Item	Code address	MIN	MAX	Unit
DCK cycle time	tFDCKCYC	400	—	ns
Data setup time	tFDS	15	—	ns
Data hold time	tFDH	15	—	ns
DREQ LOW TO HIGH	tFDRQH	20	45	ns



Input and output timing from PQC IC to HDC IC

Item	Code address	MIN	MAX	Unit
nHA ↓ to PP ↑	t REM	10	—	ns
PP ↑ to nHA ↑	t LHH	5.48	—	ns
nDREQ ↓ to nDACK ↓	t RTA	10	—	ns
nDACK ↓ to DCK input	t SDC	0	—	ns
Data setup time	t DS	10	—	ns
Data hold time	t DH	10	—	ns
DCK high level width	t PWH	200	—	ns
DCK low level width	t PWL	200	—	ns
DCK ↑ to nDACK ↑	t LHA	1.8	—	μs



Output timing of thermal head

Item	Code address	MIN	Unit
DATA 1 TO 8 HED_CLK cycle time	t CYD	150.87	ns
nHEDLATCH low level width	t WLL	452.61	ns
nHED LATCH $\uparrow$ to HED_CK $\uparrow$	t DLH	528.04	ns
HED_CK $\uparrow$ to nHED_LATCH $\downarrow$	t CLL	678.91	ns
nHED_LATCH $\uparrow$ to nHED_STRB $\downarrow$	t WLS	2.26	$\mu$ s



## Section 5

### Mechanical Description

#### 5-1. Mechanical Operation Description

This model is the dye transfer sublimation thermal printer that prints A6 size print paper (width direction). This is platen chuck method.

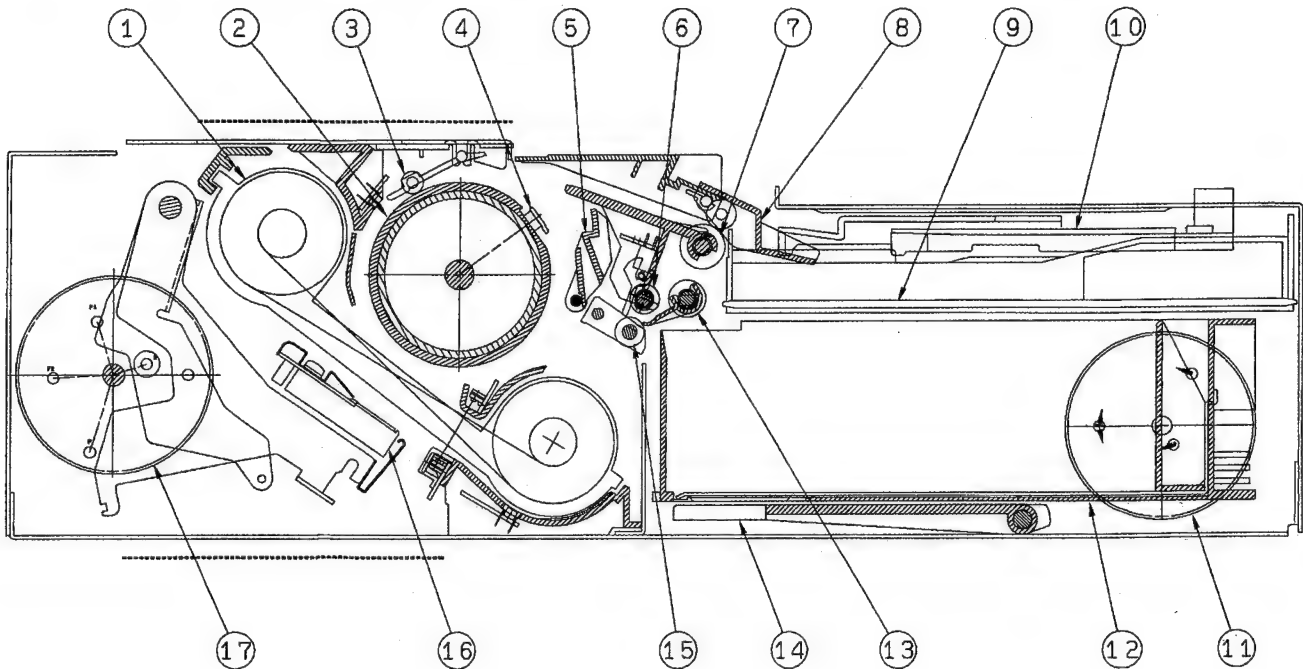


Fig. 5-1.

This model has little big size ribbon cartridge and paper supply tray because it correspond to 200 images by color standard print paper and ribbon.

The top cover has the lid for a jamming. (The dot line portion at the top of the platen upper) Replacement of the thermal head is performed from bottom side of the unit. The bottom side has the lid. (The dot line portion at the bottom of the thermal head lower.)

There are a postcard size paper supply tray and a paper injector (one piece injection unit) as option.

#### Major parts layout

- |                      |                       |
|----------------------|-----------------------|
| ① Ribbon cartridge   | ② Platen              |
| ③ Paper hold roller  | ④ Chuck               |
| ⑤ Paper lead flap    | ⑥ Paper supply roller |
| ⑦ Paper eject roller | ⑧ Paper eject flap    |
| ⑨ Paper eject tray   | ⑩ Paper eject arm     |
| ⑪ Tray motor cam     | ⑫ Paper supply tray   |
| ⑬ Pickup roller      | ⑭ Paper supply arm    |
| ⑮ Separation roller  | ⑯ Thermal head        |
| ⑰ System cam         |                       |

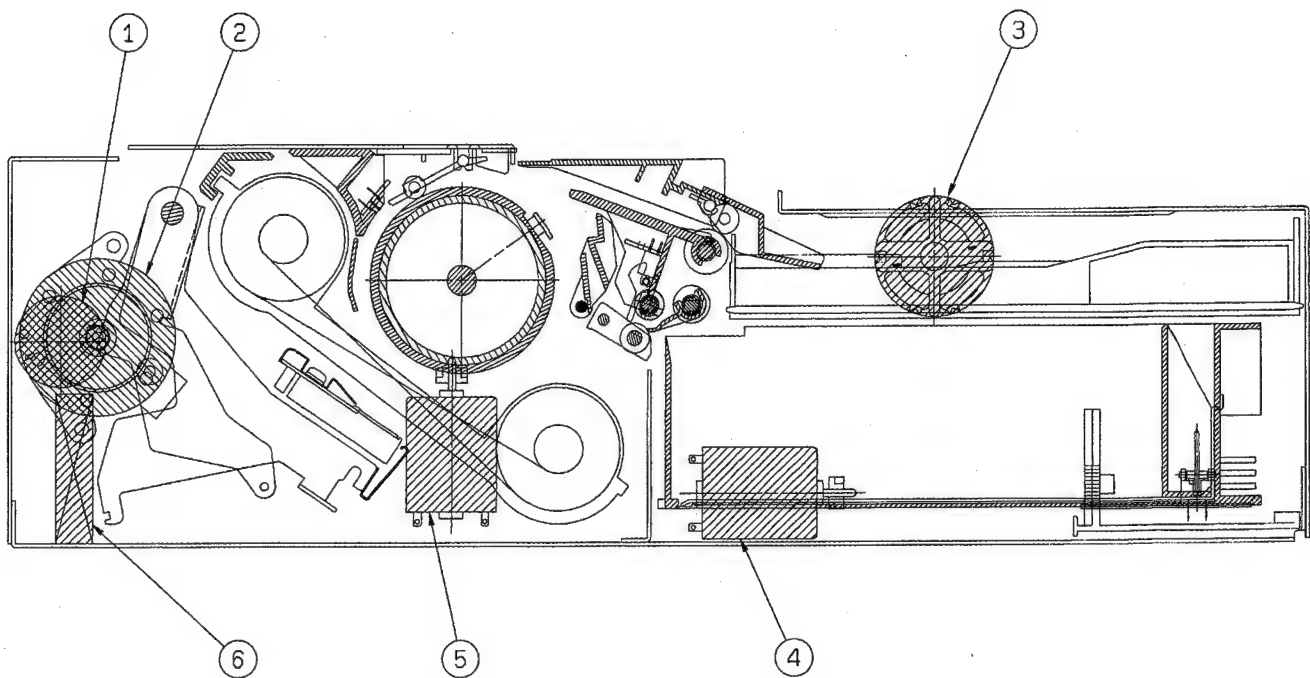


Fig. 5-2.

This unit has five drive motors. There is a fan motor for cooling the thermal head. There are two fan motors for cooling the switching regulator at the chassis.

- ① Head motor (DC motor) (forward rotation /reverse rotation)
  - Head up/down drive
  - BC link stop
  - Platen chuck link drive
- ② Platen motor (stepping motor) (forward rotation /reverse rotation)
  - Platen drive
  - Chuck open and shut (linked with rotation of platen)
- ③ Paper supply motor (DC motor) (forward rotation /reverse rotation)
  - Pickup roller drive
  - Paper supply roller /separation roller drive
  - Paper eject roller drive
  - BC gear drive
- ④ Tray motor (DC motor) (forward rotation /reverse rotation)
  - Separation roller position movement
  - Paper lead flap drive
  - Paper supply arm drive
  - Paper eject arm drive
- ⑤ Ribbon motor (DC motor) (forward rotation only)
  - Ribbon rewinding
- ⑥ Fan motor(DC motor) (forward rotation only, for letting the air)
  - Thermal head cooling when printing and overheating.



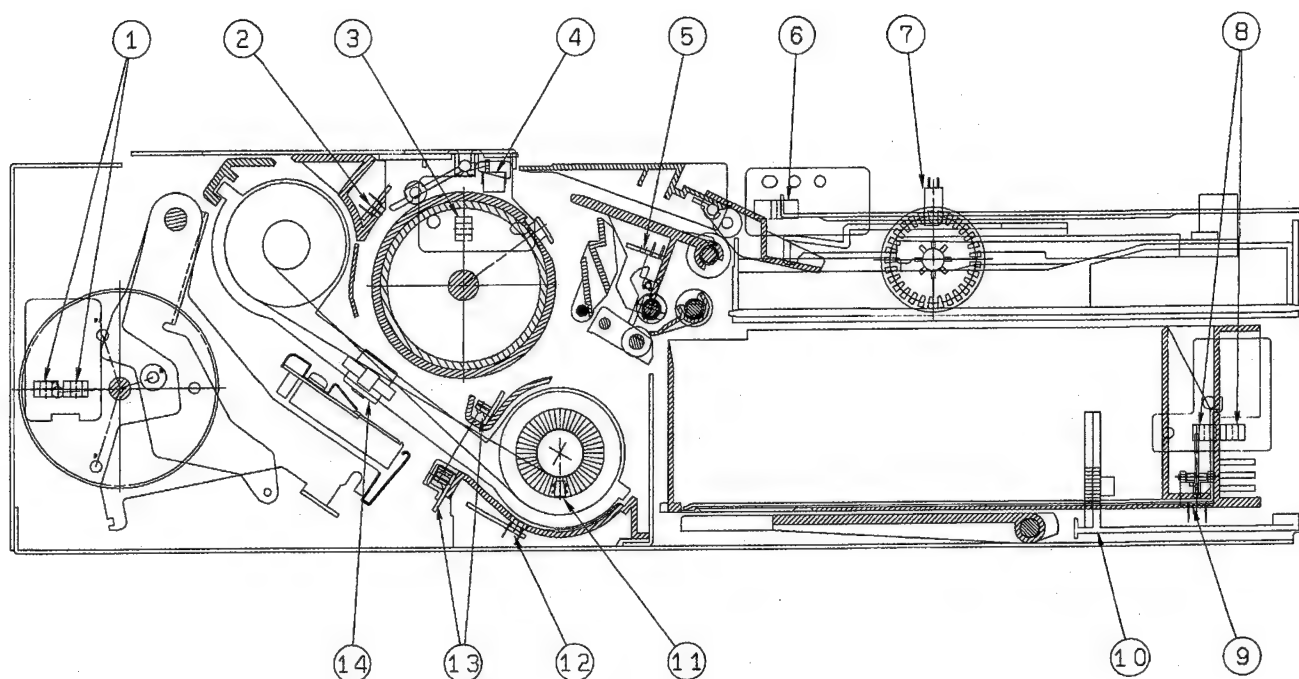


Fig. 5-3.

The sensor names and purpose are as follows.

No	Name	Type	Purpose
1	Head position sensor	Transparency x2 Photointerrupter	Detection of head position
2	Paper jamming sensor	Reflection Photointerrupter	Detection of paper jamming
3	Platen position sensor	Transparency Photointerrupter	Detection of platen home position
4	Platen cover sensor	Microswitch	Judgment of cover opening and closing
5	Paper edge sensor	Transparency Photointerrupter with arm	Detection of paper edge
6	Paper eject timing sensor	Transparency Photointerrupter	Detection of paper eject miss
7	Paper supply FG sensor	Transparency Photointerrupter	Detection of paper sending quantity
8	Tray position sensor	Transparency x2 Photointerrupter	Detection of tray motor cam position
9	Tray size sensor	Transparency Photointerrupter with arm	Detection of tray size
10	Paper existence sensor	Transparency Arm and photointerrupter	Judgement of paper existence
11	Ribbon FG sensor	Reflection Photointerrupter	Judgment of ribbon rewinding
12	Bar code sensor	Reflection Photointerrupter	Judgment of ribbon cartridge type
13	Ribbon code sensor	Transparency x2 LED and phototransistor	Detection of cueing of each ribbon color
14	Ribbon cartridge sensor	Microswitch Push catch integrated type	Judgement of ribbon cartridge existence

Table 5-1.

## 5-2. Printing operation description

Printing operation is performed by swithching of four positions using a system cam and by combination of three positions using a tray motor cam.

### 5-2-1. Position change during printing operation

Position		Operation content
System cam	Tray motor cam	
Home	Home	① Judgement of ribbon cartridge and paper existence
		② Head preheat and fan motor rotation (when there is ribbon or paper)
		☆ Print operation start
Paper supply	Home	① Judgment of ribbon type and ribbon paper combination
	Paper supply	② Beginning detection of ribbon (yellow)
	Paper supply	③ Paper supply
	Paper supply	④ Paper chucks the platen.
	Paper supply	⑤ Jamming judgment
	Home	⑥ Positioning of paper print start
Print	Home	Yellow print
Fast forward	Home	Beginning detection of ribbon (magenta)
		Positioning of paper print
Print	Home	Magenta print
Fast forward	Home	Beginning detection of ribbon (cyan)
		Positioning of paper print
Print	Home	Cyan print
Fast forward	Home	To platen eject paper start position (forward rotation)
Home	Home	① Platen is rotated reversely. Paper eject start
	Home	② Platen Chuck is released.
	Home	③ Paper is ejected on the paper eject base.
	Paper ejec	④ Paper is fallen on the paper eject tray.
	Home	☆ Print operation is finished.

Table 5-2.

### 5-2-2. Home position

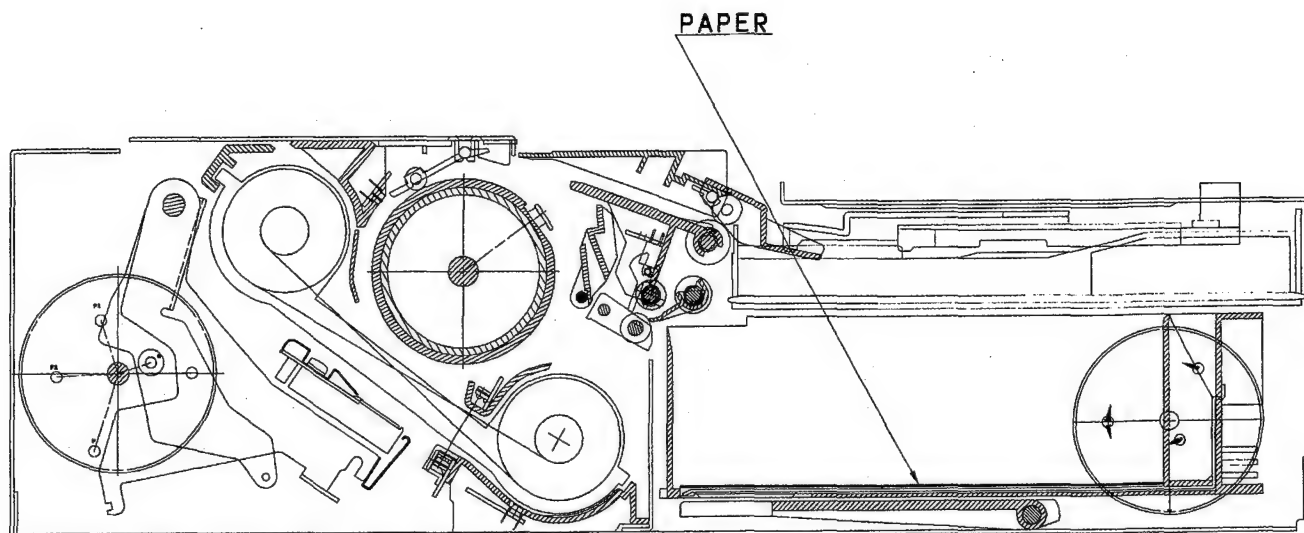


Fig. 5-4.

After power switch is turned ON,

- When the power switch is turned ON, if the system cam or tray motor cam is not stayed at the home position, each cam will be returned to the home position.
- When the power switch is turned ON, if the platen is not in the home position, the platen will be returned to the home position only with the paper and ribbon inserted.

If the system cam and the tray cam and the platen are at the home position, the mechanism does not operate.

The existence of the ribbon cartridge and print paper is judged. Head preheating and fan motor rotation are performed only when there are the paper and ribbon.

### 5-2-3. Eject paper position

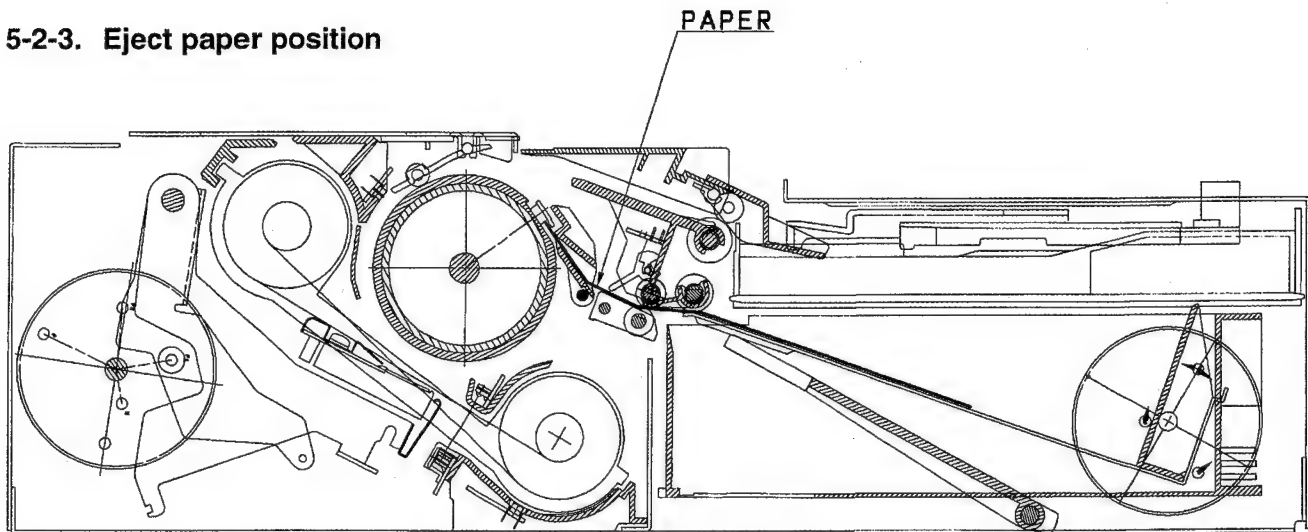


Fig. 5-5.

When the print button is pressed, the unit is put into this position. A ribbon bar code ring is read and the type of ribbon is judged. At the same time, the paper supply tray size is judged, and the combination of the ribbon and paper is judged.

The bar code ring can be read only when the system cam is at paper supply position. The bar code is read using a bar code sensor by rotating the paper supply motor and turning the bar code ring via a paper supply block and BC arm. If the platen is not at the home position, it is returned to the home position.

Next, the beginning of a yellow ribbon is detected. The supply paper motor is rotated and the paper is conveyed to the chuck position. After that, while rotating the platen, paper is chucked. At this time, the tray motor cam is set to the paper supply position, the paper supply arm is lifted, and the paper is pressed against the pickup roller. At the same time, the separation roller is pressed against the paper supply roller via a TM link for supplying paper. This separation method is used.

The paper supply FG sensor is counted from when the paper passes through the paper edge sensor, and the timing of platen rotation start is measured.

When the platen is rotated about 55°, the paper is chucked perfectly. (Actually, the chuck is closed gradually.) At this time, the paper conveyance quantity by the paper supply roller is little much than the paper conveyance quantity by the platen.

Next, when the platen is rotated about 120°, the paper jamming sensor condition is examined. If the paper is not reached, it is judged chuck miss and printing operation is stopped. In this case, open the lid for jamming and take out the paper.

If the chuck is correctly performed, the print start position of paper is detected.

#### Notes

- The paper supply tray becomes deep because this model corresponds to 200 images. Therefore, paper setting is little difficult. Specially, if the paper is set with it's folded, paper is not supplied. For the symptom of this condition, confirm the paper condition in the paper supply tray.
- When paper supply miss occurs, the paper supply arm may be lowered once to perform the paper supply operation again (maximum two times). This is not a trouble.
- After paper is supplied, the paper supply motor is reversely rotated a little in order to return the paper in the paper supply tray. This is not a trouble.

#### 5-2-4. Printing position

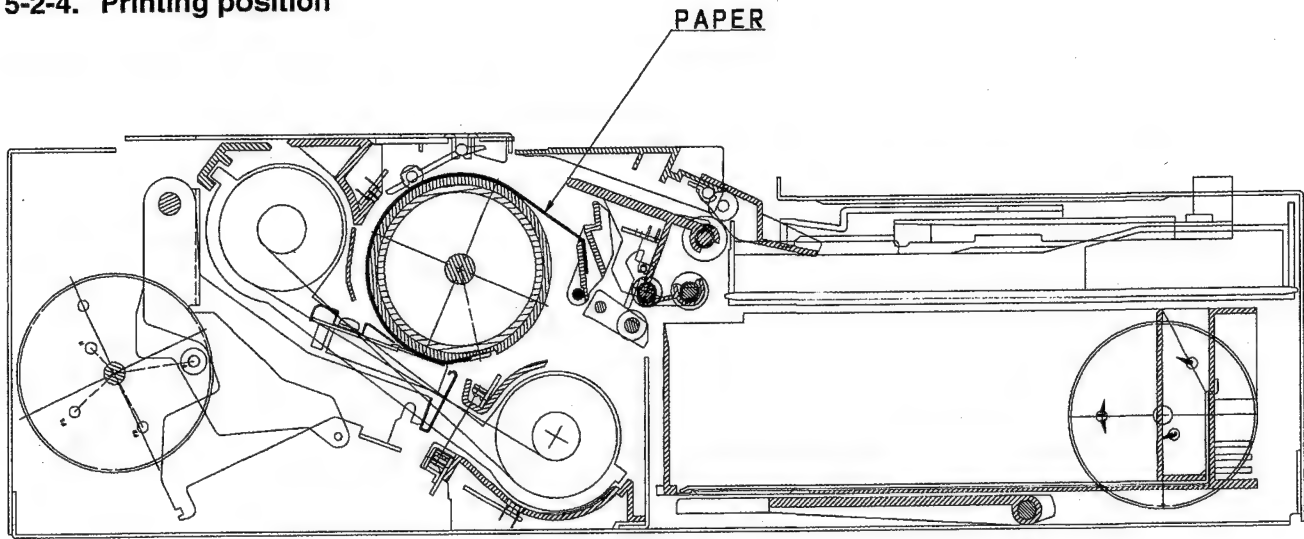


Fig. 5-6.

Print is started from when the platen is rotated about 250°. The system cam is rotated, the thermal head is pressed against the platen and the ribbon motor and platen are rotated. The above figure shows the print start condition of yellow. The rear edge of paper is left at the paper lead flap.

#### 5-2-5. Fast forward position

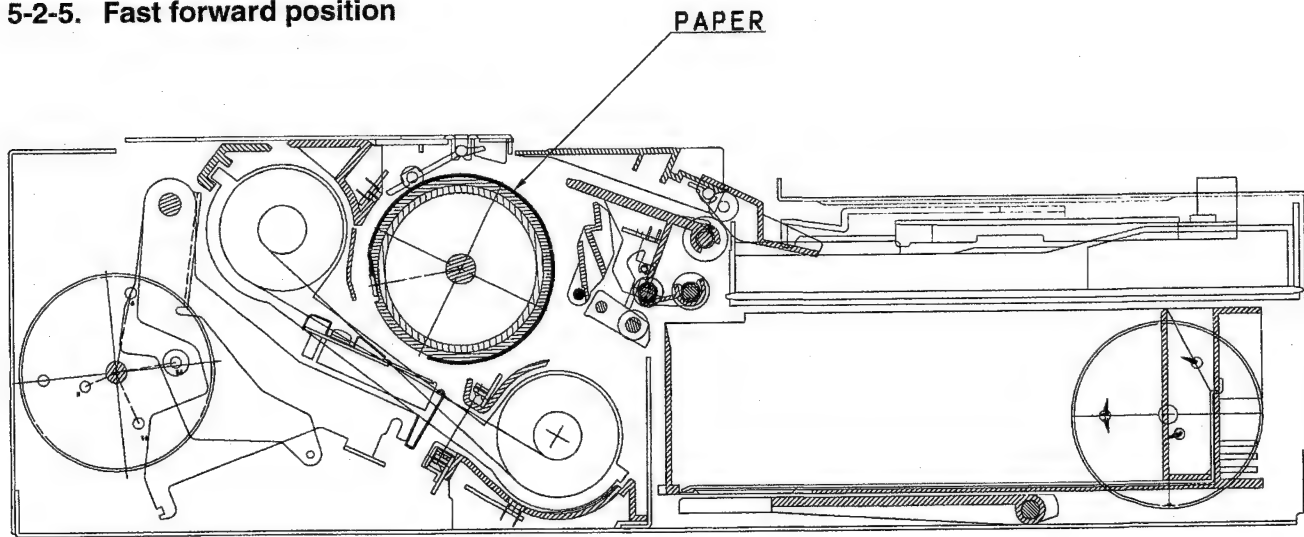


Fig. 5-7.

When each color printing is ended, the thermal head is separated and fast forward is performed.

Platen ..... Positioning of paper, and eject paper start

Ribbon ..... Beginning detection of magenta and cyan

#### 5-2-6. Eject paper position (Almost same as home position)

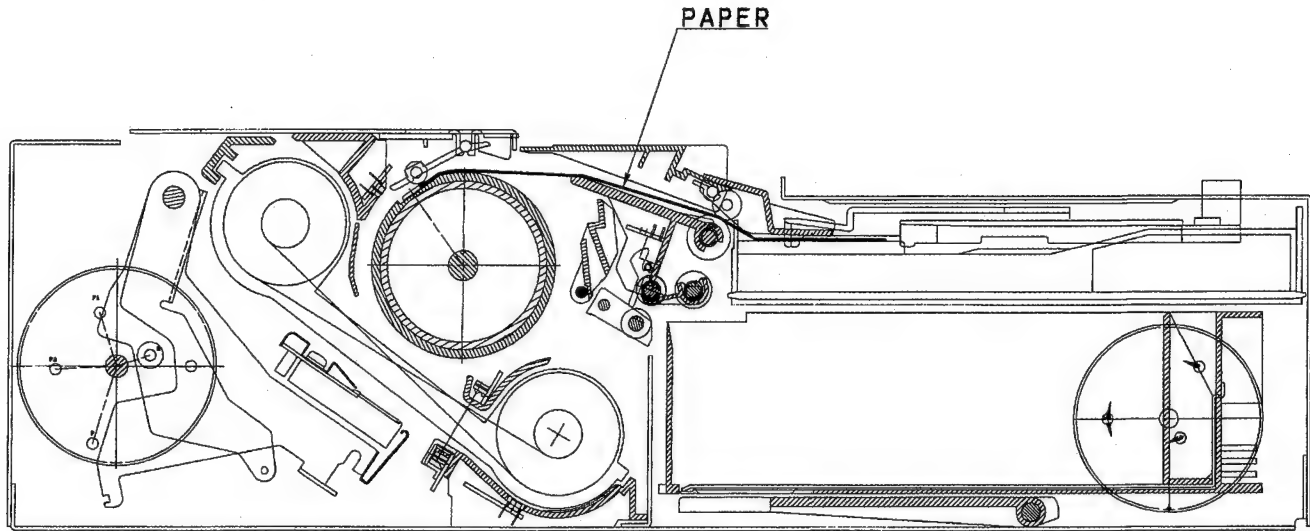


Fig. 5-8.

When the paper reaches at the eject start position, the system cam is returned to the home position, the platen is rotated reversely to perform the eject paper operation. At the same time, the eject paper roller is rotated by rotating the paper supply motor. The chuck is opened gradually according to the rotation of the platen, and the paper is conveyed to the eject paper base. Lastly, the tray motor cam is set to the eject paper position, the eject paper arm is moved and the paper is fallen on the eject paper tray.

### 5-3. Platen drive section

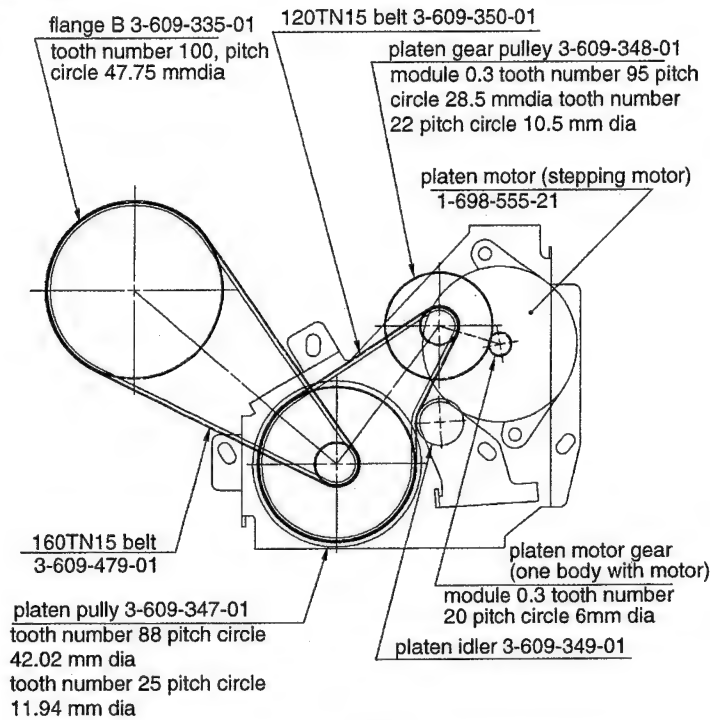


Fig. 5-9.

The platen motor drives the platen and opens and closes the chuck.

In the platen drive, a gear of module 0.3 and a belt of TN15 type (belt pitch: 1.5 mm) are used to prevent the uneven print. Specially, two belts are used, therefore, uneven print will not disappear. If the tooth of belt is jumped, the belt may be damaged. In this case, replace the belt by a new one.

#### 5-3-1. Platen drive section gear ratio

$$\frac{95}{20} \times \frac{88}{22} \times \frac{100}{25} = 76$$

Diagram illustrating the gear ratio calculation for the platen drive section:

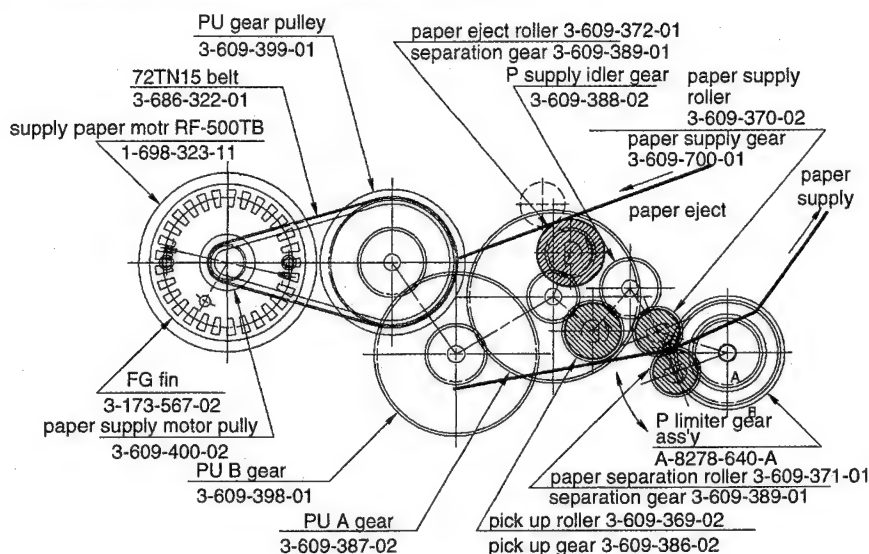
- platen motor gear (95 teeth)
- platen gear pulley (20 teeth)
- platen pulley (88 teeth)
- platen idler (22 teeth)
- flange B (100 teeth)
- platen pulley (25 teeth)

#### 5-3-2. Uneven print

If the gear or pulley is damaged, a vertical line periodically appears on the print. In this case, replace the corresponding parts by new ones.

- Platen motor gear ..... pitch 2.1 mm
- Platen gear pulley ..... pitch 9.8 mm
- Platen pulley ..... pitch 39.3 mm
- Flange B ..... same place every time

#### 5-4. Paper supply and eject drive section



The paper supply and eject drive section is constituted by a paper supply motor block ass'y and paper supply block ass'y.

The pickup roller sends the paper in the paper supply tray. In this stage, some papers are conveyed. Next, when the papers are sent to between the paper supply roller and separation roller, only the uppermost paper is conveyed to the platen block by the paper supply roller. The papers later than second paper are not advanced in this position. The reason is that the rotation of paper supply motor is directly transmitted to the paper supply roller, but it is transmitted to the separation roller via a P limiter gear ass'y.

When only the paper is supplied, the separation roller is pressed against the paper supply roller. When there is one paper or nothing, the drive paper conveyed directly from the paper supply roller to the separation roller becomes higher than that from a torque limiter (P limiter gear assembly). Therefore, gears BAND A of the P limiter gear assembly are slipped and the separation roller is rotated in the forward direction. But when more than two papers are put between the paper supply roller and separation roller, gears A and B of P limiter gear assembly are rotated in same direction and the separation roller is rotated reversely since the direct transmission drive power from the paper supply roller to separation roller becomes weak due to the slipped paper and since, the drive power from the P limiter gear becomes higher. When one piece, the paper is conveyed since the separation roller is rotated in the forward direction. When more than two pieces, only the uppermost paper is conveyed and later two pieces are returned since the separation roller is rotated reversely.

Lastly, the printed paper is conveyed to the paper eject section by the paper eject roller.



## Section 6

### Troubleshooting

#### 6-1. Electrical System Problems

1. The system does not start.

<Cause> Incomplete IC204 soldering, EPROM IC210 disconnection or defect can be suspected.

2. All alarm LEDs light and stop when the power is turned ON.

<Cause> System controller IC204 is not initialized normally.

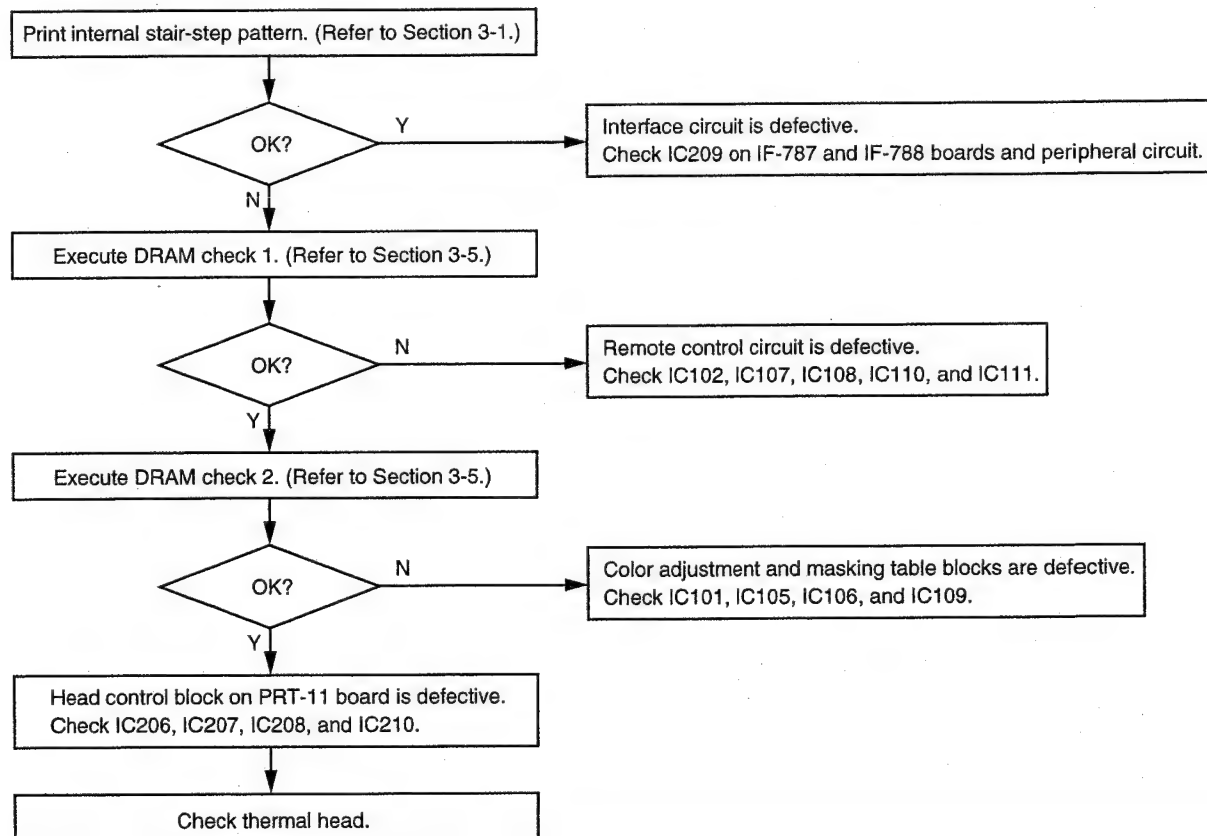
<Countermeasure> Communication with the mechanical controller PRT-11 board may have failed. Check the harness connecting CN204 on the IF-787 or IF-788 board and CN006 on the PRT-11 board. Or communication with the EEPROM (IC201 on the IF-787 or IF-788 board) may have failed. In this case, check the periphery of IC201.

3. Data from the personal computer is not accepted (not operating with the driver software).

<Cause> There may be problems in the periphery of the interface controller IC209.

<Countermeasure> Press S207 on the IF-787 or IF-788 board to perform the test printing. If printing is not performed, defect of the periphery of the system controller IC204 can be suspected. If printed normally, check IC209 and IC102.

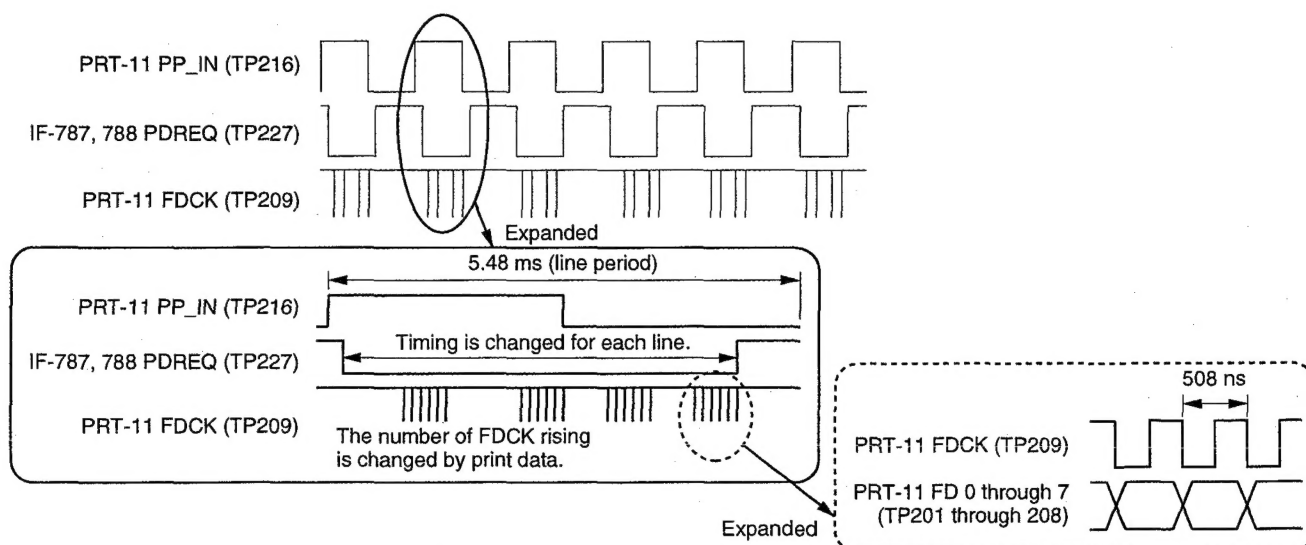
4. Printing result is no good.



5. Communication is normal when the built-in SCSI terminator is turned ON.  
Communication is not normal when the external terminator is connected. (UP-D2600S only)  
 <Cause> Fuse F201 of a terminator power supply line may be damaged when the external terminator is not defective.  
 <Countermeasure> Replace the fuse F201.  
 Whether the F201 is broken or not, you cannot judge by your eyes.
6. Printing operation is NG.  
 <Countermeasure> The cause can be ascertained by performing the mechanical adjustments sequentially. (Refer to Section 3-6)

### Point on Output System (Print)

The PP IN signal on the PRT-11 board is the signal that is risen every print line output from CPU on the PRT-11 board. The print data request signal PDREQ to the IF-787 and IF-788 boards is output (fallen) every line. When receiving the necessary data, the PDREQ signal rises.  
 The print data from the IF-787 and IF-788 boards is synchronized with the FDCK signal and output.



## 6-2. Mechanism Troubleshooting

The three main troubles of the printer mechanism deck are as follows.

- Paper feed troubles such as miss-feeding, double-feeding, etc.
- Paper ejection troubles such as jamming which occur after printing
- Printing troubles from printing results

The following describes how to first locate the area with the troubles and how to solve the troubles smoothly.

### 1. Paper Feed Troubles

Location: Paper supply block assembly

Chuck trouble occurs because the paper has not reached the platen. The possible causes are the paper cannot be fed properly due to the wear of the paper feed rubber or the platen cannot chuck the paper due to damage of parts.

Moreover, the paper may not be able to be chucked to the platen due to the dust adhering to the roller or paper. Therefore, check that the roller cleaning or roller is normal.

If paper is double-fed, check the torque limiter and separation roller.

Location: Paper supply tray assembly

The paper cannot be fed even though the paper feed block assembly and paper supply lever are working normally.

This is because the paper is not being fed from the paper supply tray.

The possible causes are the deformation of the claw of the paper supply tray or the paper is bent when the paper is set to the tray.

### 2. Paper Ejection Troubles

Location : Platen cover assembly

After completing printing, paper ejection is carried out, but the paper is not ejected. Paper is jammed at the top of the platen.

This paper ejection trouble is caused by the damage of paper holding parts of the platen cover (upper cover which can be opened and closed for repairing paper jamming).

Location : Paper supply block assembly

Paper jams near the paper ejection exit and not on top of the platen.

This may occur when the paper ejection flap attached to the paper feed block assembly drops or when the support portion is damaged.

The paper is not normally chucked to the platen during paper feeding when the paper is jammed during ejection because it moved obliquely. Therefore, check each item of paper feed troubles.

### 3. Printing troubles

Location : Platen motor assembly

Printing blurring (vertical lines).

This may be caused by the scratches and damage of the gears of the platen motor.

Details of locating the damaged gear are described in Section 5-3.

Location : Thermal head

Horizontal lines on the printed side of the paper.

This may be caused by tone unevenness of the head and wear of the head.

Location : Paper supply tray assembly and head link section

The print is badly out of position.

To locate the trouble area, print using the following method. First, print using a standard size paper. Just before printing is completed, open the print cover.

The platen stops. Check the gap width between the black rubber of the platen and paper.

If the gap is consistent throughout from top and bottom, it means that the print is out of position because the head is not attached at the proper position. Check the head link section around the head attached.

If the gap is not consistent, check the paper supply tray.

## SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer :

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

## LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 5.25 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20 V AC range are suitable. (See Fig. A)

